

THE EMPTY OBJECT CONSTRUCTION AND RELATED PHENOMENA

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This thesis treats a series of constructions containing unexpressed arguments that exhibit traits of null pronouns, but that resist analysis as standard null pronouns. The Norwegian Empty Object Construction (EOC) combines a complete clause with a conjunct that contains an unexpressed object. The fact that this object receives an E-type reading when associated with a quantified NP forces the conclusion that it is indeed a null pronoun. It cannot be considered a standard null pronoun, however, since it cannot occur outside of a non-initial conjunct and is constrained in its reference. The Baule Empty Subject Construction (ESC), elsewhere called a Serial Verb Construction, is shown to be a covert clausal coordination involving a non-initial conjunct containing unexpressed arguments demonstrating these same characteristics. Additionally, in both EOC and ESC the conjuncts must match in polarity and in Tense/Aspect/Mode marking. Adverbial modification of the non-initial conjunct is limited. Unexpressed arguments are barred from sentential complements and from conjuncts with overt subjects.

The characteristics of EOC/ESC are shown to be captured by an account under which the unexpressed arguments are null pronouns licensed by reference recovery via an interpretational procedure, the Coupling Mechanism. The Coupling Mechanism uses an antecedent clause to derive a definite description constrained to pick out a

unique discourse referent. A null pronoun must occupy a maximal position in its clause in order to access the necessary antecedent clause.

The account is shown, with slight modification, to apply to the Dutch/German SLF construction, a construction in which a nominal that is not sentence initial serves as the subject of two clausal conjuncts. It is argued that, alongside the more standardly assumed adjunction structure, SLF can be based on a coordination structure in which the unexpressed subject of the second conjunct is a null pronoun licensed by the Coupling Mechanism. The account is also extended to a case of an unexpressed argument in an adjunct, the Dutch/German Adjunct Object Gap (AOG), commonly analyzed in the literature as a parasitic gap. Under the alternate account proposed here, the AOG is a bound null pronoun licensed by the Coupling Mechanism.

BIOGRAPHICAL SKETCH

Martha Larson was named after her father's grandmother Martha Jacobsdatter Blexrud, who immigrated to Wisconsin in 1880 from Nord Trøndelag, an area of Norway in which the Empty Object Construction discussed in this thesis is used. Martha Larson grew up in Racine, Wisconsin, where she graduated from J. I. Case High School as valedictorian of the Class of 1985. She did her undergraduate studies at the University of Wisconsin-Madison, during which time she held a student job at the Language and Media Labs. In 1988/89 she spent an exchange year in Germany at the Albert-Ludwigs-Universität Freiburg. In 1989/90 she took leave to spend a second year in Germany working with political refugees as a Jesuit European Volunteer (JEV) in Augsburg. In 1991, she completed a B.S. in Mathematics with a concentration in Electrical Engineering, as well as a second major in German Studies. She went on to enter the graduate program at Cornell University in the field of Germanic Linguistics, where she concentrated on syntax and the syntax/semantics interface. Her language interests ranged beyond Germanic and she spent summer 1992 studying Turkish at Boğaziçi Üniversitesi in Istanbul. In 1994, she moved to Bouaké, Côte d'Ivoire where she undertook extensive fieldwork in the Baule language, as well as taught English at a local language academy. In 1996, she earned her M.A. In 1997, she returned to the States and expanded into the area of computational linguistics. In 1998, she moved to Germany and started to work in speech recognition research and development, eventually setting a focus on statistical language modeling and spoken document retrieval. During the summer of 2001 she did a speech technology internship at IBM's Watson Research Center, Yorktown, New York. She currently splits her time between residences in the Netherlands and in Germany, where she works in the multimedia analysis group in Fraunhofer Institute for Media Communication (IMK), Sankt Augustin.

La patience est un chemin d'or.

-West African proverb

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LIST OF ABBREVIATIONS

1so	1st person singular object marker
1ss	1st person singular subject marker
2ss	2nd person singular subject marker
3po	3rd person plural object marker
3ps	3rd person plural subject marker
3so	3rd person singular object marker
3ss	3rd person singular subject marker
ACC	accusative
AOG	Adjunct Object Gap
ATB	Across The Board
CSC	Coordinate Structure Constraint
COMPL	completive
CONT	continuative
DAT	dative
DEF	definite
DEM	demonstrative
EOC	Empty Object Construction
EPP	Extended Projection Principle
ERG	ergative
ESC	Empty Subject Construction
FOC	focus marker
FUT	future
GB	Government and Binding
IMP	imperative
INSTR	instrumental
LF	Logical Form
NOM	nominative
PART	participle

PART	particle
PERF	perfect
PF	Phonological Form
PL	plural
PROG	progressive
REL	relative pronoun
RSC	Resumed Subject Construction
SLF	<i>Subjeklücke, Finit</i> Construction
SVC	Serial Verb Construction
V1	initial verb in ESC, RSC or coordination
V2	second or any other non-initial verb in an ESC, RSC or coordination

CHAPTER ONE

INTRODUCTION

1.1 Overview

The literature abounds with constructions that have been analyzed as containing a null pronoun. In an interesting subset of cases, the null pronoun is constrained in its reference and distribution and resists analysis as a standard null pronoun. An example of such a case is the Norwegian Empty Object Construction (EOC).

- (1.1) **Jens skrev to brev_i og sendte pro_{i/*k} til England.**
Jens write.PAST two letter_i and send.PAST **pro_{i/*k}** to England
'Jens wrote two letters and sent (them) to England.'¹
(Norwegian Empty Object Construction; adapted from Creider 1986, p. 11, ex. 48a.)

This null pronoun differs from standard null pronouns in that it has only a single reference possibility open to it – it must be interpreted as referring to the same entity as another argument in the sentence, in this case, the object of the initial clause. Pronouns with this reference constraint will be referred to as *referentially coupled*. If the null object in (1.1) were a standard null pronoun it would be expected to behave like an overt pronoun, which is not subject to constraints on its reference.

- (1.2) **Jens skrev to brev_i og sendte dem_{i/k} til England.**
Jens write.PAST two letter_i and send.PAST them_{i/k} to England
'Jens wrote two letters and sent (them) to England.'

The empty object is restricted in its distribution in that it cannot occur in simple, non-coordinate sentences, but occurs only in second conjuncts.

¹ Subscripts are used to indicate elements that can be construed with the same referent.

- (1.3) ***Han sendte til England**
 he send.PAST to England
 Intended reading: 'He sent it to England.'
 (Norwegian, Creider 1986, p. 11, ex. 48b.)

This investigation treats four constructions containing unexpressed arguments that have been analyzed as null pronouns at some point in the literature, but which cannot be completely assimilated to standard null pronouns since their reference is constrained by a coupling effect and their distribution is subject to limitations including a prohibition on occurrence in simple clauses.

The first construction is the Norwegian EOC, which occurs in varieties of Norwegian spoken outside of the region around Oslo. Creider (1986) and Åfarli and Creider (1987) conclude that the unexpressed object in the EOC is a null pronoun, marked as *pro* in (1.1). Den Dikken (1991) and Creider (1986) point out that a significant challenge faced by a null pronoun account of EOC is to explain why null objects do not generally occur in Norwegian, i.e. not in simple clauses like (1.3). A salient difference between a simple, non-coordinate sentence (1.3), which admits no null object, and an EOC (1.1) is the presence of a first conjunct containing an argument with which the null object stands in a coupling relationship. In this thesis, this generalization will be formulated into an account involving a *Coupling Mechanism*, which insures that the first conjunct of the EOC plays a critical role in licensing the null object occurring in the second conjunct.

The second construction treated is the Empty Subject Construction (ESC) in Baule, a Kwa language spoken in the Côte d'Ivoire.

- (1.4) ɔ to-li ofle_i di-li pro_{i/*k}
 3ss buy-COMPL papaya_i ate-COMPL pro_{i/*k}
 'S/he bought papaya and ate it.'
 (Baule Empty Subject Construction)

The ESC is a sentence containing multiple finite verbs, but no markers of coordination or subordination. Non-initial verbs often fail to express all arguments in their argument array. The Baule ESC bears a close surface resemblance to constructions that have been called Serial Verb Constructions in other languages. It will be demonstrated that the Baule ESC is actually a case of covert coordination and that the unexpressed arguments in the second conjunct are null pronouns, marked *pro* in (1.1). A null-pronoun account of ESC (Larson 2002, 2003, 2004) has immediate appeal, since in Baule null objects are frequently used in constructions other than ESC. A simple sentence such as (1.5) can contain a null pronoun.

- (1.5) **ɔ di-li (*i)**
 Yao eat-COMPL (*3so)
 'Yao eats it.'

Two facts pose a problem for the null pronoun account of Baule ESC. First, standard null objects can occur in ESC involving so-called *Accidental Combinations* of verbs, such as (1.1), but there exists a class of ESCs, involving so-called *Essential Combinations* of verbs, for which parallel simple sentences do not occur.

- (1.6) **Talua mun be yi-li Konan_i fite-li *pro*_{i/*k} kuman nun.**
 girls DEF.PL 3ps move-COMPL Konan_i exit-COMPL *pro*_{i/*k} hole in
 'The girls pulled Konan out of the hole.' (Baule)

- (1.7) ***Talua mun fite-li.**
 girls DEF.PL exit-COMPL
 Intended reading: 'The girls extracted it/him/her.'

Alongside standard null objects, Baule appears to have a class of null objects only licensed in ESC. Second, null objects in ESC are constrained by referential coupling as indicated by the subscripts in (1.1) and (1.6). Restrictions on reference of null objects are unexpected, since the reference of null pronouns in Baule is not in general subject to constraints.

- (1.8) ɔ to-li oflɛ_i kpekun ɔ di-li *pro*_{i/k}
 3ss buy-COMPL papaya_i and 3ss ate-COMPL *pro*_{i/k}
 'S/he bought a papaya and ate it (the papaya).'
 'S/he bought a papaya and ate it (something else).' (Baule)

I will show that the Coupling Mechanism that accounts for the distribution of null objects in Norwegian EOC is also at work in Baule ESC and that it explains the existence of coupling effects as well as the occurrence of null objects in Essential-Combination ESC. In Baule, referential coupling effects can also be observed with unexpressed subjects in ESC, as well as with some overt pronouns.

The third construction is one that commonly occurs in Germanic languages and is referred to as to a SLF (*Subjektlucken in finiten Sätzen*, 'subject gaps in finite sentences'), a designation originating with Höhle (1983). This construction will be investigated in Dutch and German.

- (1.9) **Ineens ben ik_i moe en *pro*_{i/*k} ga op het luik zitten.**
 At once am I_i tired and *pro*_{i/*k} go on the door sit
 'All at once I am tired and go sit on the door.'
 (Dutch, Van Zonneveld 1992, p. 404, ex. 7a. from a novel by Franz Pointl)

Van Zonneveld (1992) analyzes such sentences as coordination of two independent clauses, the second with a phonetically reduced subject, represented here as *pro*. The *pro* posited in (1.9) cannot be a conventional null subject for two, now familiar, reasons. First, this null subject is not licensed in environments other than the non-initial clause of coordination.

- (1.10) **pro* Ga op het luik zitten.
 pro go on the door sit
 Intended reading: '(I) go to sit on the door.'

Second, the null subject is subject to referential coupling constraints, shown by the subscripts in (1.9). I will argue that there is a significant group of SLF constructions that must be given a null-subject account, an analysis consistent with the view of

van Zonneveld (1992) and Hartmann (1994), but quite contrary to that of Heycock and Kroch (1993, 1994), Heycock (1994), Buring and Hartmann (1998) and Johnson (2002). The licensing mechanism proposed for the null subject of Dutch/German SLF is a variant of the same Coupling Mechanism at work in Norwegian EOC and Baule ESC.

The final construction is one occurring in Dutch and German that I refer to as the Adjunct Object Gap (AOG) construction. Object gaps in prepositional adjuncts have been considered in the literature to be parasitic gaps (Bennis and Hoekstra 1985a, 1985b, Felix 1985, Webelhuth 1992, Müller 1993).

- (1.11) **Het is niet toegestaan om een PC_i langer dan een kwartier**
 it is not allowed about a PC_i longer than a quarter-hour
zonder pro_{i/*k} te gebruiken bezet te houden.
 without pro_{i/*k} to use occupied to hold
'It is not allowed to occupy a PC longer than a quarter hour without using it.'
 (Dutch, from http://www.library.uu.nl/debibliotheek/bibliotheekenme/centralebiblioth/huisregels/12044_169.html)

Other authors have argued that they are not parasitic gaps (Huybregts and van Riemsdijk 1985, Beermann 1992 and Kathol 1995, 2001). Beermann (1992) proposes that the unexpressed object in the adjunct is a null pronoun, indicated as **pro** in (1.11), with special licensing conditions. As shown by the subscripts, this unexpressed object must be construed with an argument in the matrix. I will show that an account of this construction involving the Coupling Mechanism is superior to the parasitic-gap account.

This list of four constructions, each of which has been proposed at one time in the literature to involve a null pronoun and each of which demonstrates coupling effects, provides a compact preview of the data to be treated in this thesis. The fact that it is possible to formulate a unitary account of these four constructions suggests

the existence of a cross-linguistic regularity whose homogeneity has previously been overlooked in the literature.

1.2 The Minimalist Program

The analysis will be formulated within the theoretical framework of the *Minimalist Program*, launched by Chomsky (1993). The Minimalist Program is the most recent instantiation of the Principles and Parameters approach to syntactic theory. It provides a constrained set of conditions whose interaction produces the wide variety that characterizes the observed surface strings of a language. Cross-linguistic variation is encoded in differences in features of lexical items, which under the Minimalist Program includes functional categories such as Tense. The Minimalist Program has been further developed by Chomsky 1995, 2000, 2001a and 2001b. Contributions and extensions that are important for this discussion include Collins (1997b) and Bowers (2002).

In the Minimalist Program, sentences are represented as binary branching trees and are built up from a group of items selected from the lexicon prior to the beginning of the derivation. The basic operation for building syntactic structures is *Merge*. Merge is the operation that takes two syntactic objects and forms a third one. When a Merge operation inserts an item from the lexicon it is called *External Merge* and when a Merge operation acts on a syntactic object in the tree, it is called *Internal Merge*. Internal Merge is more traditionally referred to as 'movement' of syntactic constituents.

The Minimalist Program specifies two types of conditions that the computation of a grammatical sentence must meet. First, a computation must satisfy conditions on its interfaces to other systems. There are two interfaces, LF, the interface to the semantic-conceptual system and PF, the interface to the articulatory-perceptual

system. Features that are uninterpretable must be eliminated by the time the derivation reaches the interfaces. Feature elimination is accomplished under the operation *Agree*. The operation of *Agree* involves a relation being established between two syntactic objects. One of the syntactic objects contains uninterpretable features and is called the *probe*, since it initiates the *Agree* relation. The uninterpretable features of the probe are ϕ -features (person, number, gender). The probe matches itself with the other syntactic object, which is called the *goal*. The goal contains interpretable ϕ -features, which must match those of the probe. If a match is made, *Agree* obtains and the uninterpretable features of the probe are eliminated by the operation *Delete*. Case features are uninterpretable features, yet do not act as probes, but are rather associated with goals. Case features do not initiate *Agree*, but require an *Agree* relation in order to be valued. Uninterpretable Case features of goals are responsible for determining which syntactic objects can move. Movement occurs when Case features are valued under *Agree* and consists of the goal pied-piping a category to a position determined by an EPP-feature of the probe. In general, it is assumed that syntactic objects that have had their features valued under *Agree* are no longer active and can participate in no further operations.

Second, a computation must satisfy conditions on syntactic derivation. Conditions on derivations are formulated as an inventory of economy principles, whose exact membership remains a matter of debate in the literature. Economy principles can be divided into two categories according to the computational load they induce: local conditions and global conditions. Local conditions are less controversial than global conditions, and the advantages of abandoning global conditions altogether are convincing (Collins 1997b). Satisfaction of local conditions can be computed directly at the moment an operation is performed within a single derivation. In order to exclude global conditions, economy principles which involve counting steps or

comparing derivations in any way must be barred from the system. Collins (1997b) restricts economy principles to Last Resort and Minimality. Last resort specifies that syntactic objects can participate only in operations in which they can satisfy one of their own properties. Minimality, a formulation of the Minimal Link Condition, specifies that an operation can apply only if no smaller operation is available. Feature checking is required to be satisfied by the closest available element.

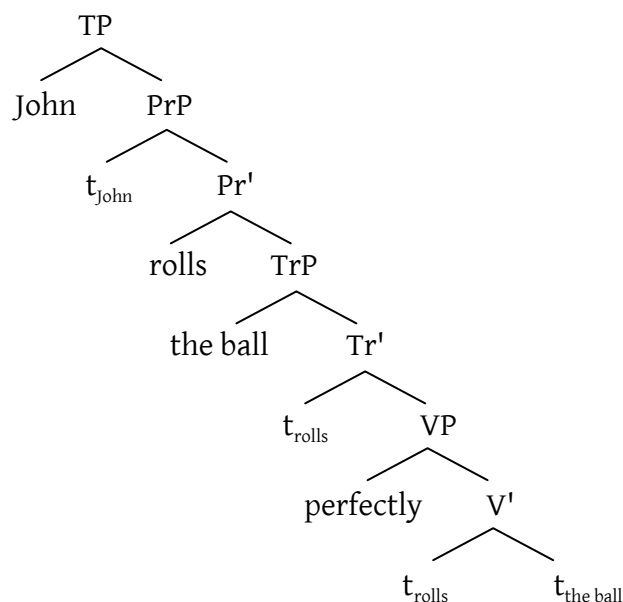
The version of the Minimalist Program that I adopt includes a projection headed by Tr, the transitivity head proposed by Bowers (2002). The existence of Tr is motivated by the fact that many languages make use of a particle that can be analyzed as a morpheme that phonetically realizes transitivity.

- (1.12) **Bha Calum air am balach a chluintinn.**
 be.PAST Calum PERFECT the boy PART hear
 'Calum had heard the boy.'
 (Scottish Gaelic, adapted from Bowers 2002, p. 191, ex. 15a.)

In Scottish Gaelic, Tr takes the form of the morpheme **a**, glossed here as a particle, 'PART'.

Using TrP Bowers (2002) is able to implement a split vP account under which transitivity is represented independently of the property of having an external argument, a disassociation for which he presents solid evidence. In Bowers' structure, the external θ -role is assigned to the specifier of PredP (PrP) located higher in the tree than TrP, which is associated with accusative Case checking.

(1.13) Bowers' (2002) clause structure including TrP (Bowers 2002, ex. 8, p. 188)



During the derivation, V moves to Tr and then to Pr since in English both of these heads have strong V-features. Tr has a probe with ϕ -features. Tr also has an EPP-feature. The uninterpretable ϕ -features of the probe (Tr) are matched with the interpretable ϕ -features of the goal (the object). Under matching, the uninterpretable features of the probe are deleted by Agree. The goal has uninterpretable Case features. These are valued under Agree. Internal Merge into the position determined by the EPP-feature in the label of the probe results. Evidence for movement of the object to Spec Tr is that V-modifying adverbs such as **perfectly** must occur at the end of a sentence.

(1.14) **John has rolled (*perfectly) the ball (perfectly).**
 (adapted from Bowers 2002, p. 188 ex. 7a.)

This brief summary should serve as a sufficient introduction to the theoretical framework in which the analysis that follows is formulated. I have not elaborated on aspects of the Minimalist Program that are not central to my account.

1.3 Outline

Chapter 2 provides a descriptive overview of the Empty Object Construction (EOC) in Norwegian, illustrated by (1.1) above. Proof is presented that the empty object is a null pronoun, which is projected into the syntax like an overt pronoun. The bulk of this proof is constituted by the fact that the empty object receives an E-type reading when the argument with which it stands in a coupling relationship is a quantified NP of the appropriate sort. This fact demonstrates not only that the empty object is a null pronoun, but that referential coupling in the EOC involves a lack of c-command. A preliminary structure for Norwegian EOC consistent with these conclusions is presented and its superiority to structures proposed in the literature is demonstrated. An initial formulation of an account of null pronouns is sketched. This account splits licensing into a Formal Licensing Condition and an Identification Condition along the lines of Rizzi (1986). The stage is set for argument of the position that Norwegian inherently fulfills Formal Licensing of null objects (i.e. that it is generally an object drop language), but that null objects do not surface outside of the second conjunct of EOC since it is exactly the presence of the first conjunct that makes fulfillment of the Identification Condition possible. Data involving negative indefinites suggest that there exists an alternative derivation in which the first-conjunct object moves to a position from which it c-commands the empty object, but that such movement is restricted to occurring as a last resort.

Chapter 3 provides a descriptive overview of the Empty Subject Construction (ESC) and related constructions in Baule. Similar constructions in related languages are mentioned where informative. I argue that Baule ESC is covert coordination and that unexpressed arguments in the second conjunct, both subjects and objects, are null pronouns. As with Norwegian EOC, the E-type readings that arise when an

unexpressed argument stands in a coupling relationship with a (appropriate) quantified NP diagnose pronouns and make it possible to conclude that coupling does not involve c-command in Baule ESC. A preliminary structure for Baule ESC is presented. An account of null pronouns in Baule is laid out that covers null subjects, which only occur in ESC, and null objects, of which there are two varieties: standard null objects, which occur freely, and Essential-Combination null objects, which occur only in ESC. The limited distribution of Essential-Combination null objects is accounted for by the fact that, like empty objects in Norwegian, they fail to fulfill the Identification Condition in constructions without first conjuncts.

In Chapter 4, the facts presented in Chapter 2 and Chapter 3 are used to develop a general account of null pronouns displaying referential coupling effects. The Formal Licensing Condition is satisfied in Norwegian and Baule inherently, but by slightly different means. The Identification Condition is satisfied by the *Coupling Mechanism*, which allows null pronouns in non-initial conjuncts to fix their reference using a definite description constructed from an antecedent clause. The antecedent clause is the first conjunct of the coordination. A null pronoun must be able to reach a maximal position in its conjunct in order to have access to the antecedent clause and be able to use the Coupling Mechanism to fulfill Identification. The Coupling Mechanism is subject to the *Ambiguity Prohibition*, which states that a definite description can only be used to fix the reference of a null pronoun if it is the unique definite description that is available to do so. The Ambiguity Prohibition avoids being overly restrictive due to the existence of the *Matching Constraint*, which restricts object definite descriptions to fixing the referents of null object pronouns and subject definite descriptions to fixing the referents of null subject pronouns.

Chapter 5 investigates whether a null-pronoun account involving the Coupling Mechanism for Identification can be extended to account for the Dutch/German SLF and the Dutch/German AOG construction. Section 5.1 begins with a presentation of the descriptive facts of the Dutch/German SLF construction, illustrated in (1.9). Examples in which the unexpressed subject of the second conjunct receives an E-type reading, which have generally been neglected in the literature, are discussed. These examples motivate an account that posits that SLF has a coordination structure with a second-conjunct null subject coupled to, but not c-commanded by, the first-conjunct subject. This structure exists in addition to an adjunction structure, such as is considered to be the sole structure underlying SLF by most authors. A variant of the Coupling Mechanism is shown to fulfill the Identification Condition for the null subject in SLF. Section 5.2 begins with a presentation of the descriptive facts of the Dutch/German AOG construction, illustrated in (1.11). The parasitic-gap account of this construction, which has frequently been defended in the literature, is reviewed. The Coupling Mechanism is concluded to also be at work in the AOG-construction, but in a different way than in EOC/ESC/SLF. The Coupling Mechanism Identifies a null object which is c-commanded by the nominal with which it stands in a coupling relationship.

CHAPTER TWO
THE EMPTY OBJECT CONSTRUCTION:
OBJECT GAPS IN NORWEGIAN COORDINATION

2.1 Introduction to the Empty Object Construction (EOC)

Varieties of Norwegian allow objects to go unexpressed in second conjuncts of coordination.

- (2.1) **Han skrev et brev og sendte til England.**
he write.PAST a letter and send.PAST to England
'He wrote a letter and sent (it) to England.'
(Norwegian, Creider 1986, p. 11, ex. 48a.)

When the second-conjunct verb is used in isolation, its object must be expressed overtly.

- (2.2) ***Han sendte til England.**
he send.PAST to England
(Norwegian, Creider 1986, p. 11, ex. 48b.)

This chapter presents an introduction to this construction, called the *Empty Object Construction (EOC)* since Johnsen (1988). This designation is meant to capture the descriptive fact that an object that would otherwise be required is absent in the surface string. Norwegian EOC displays extensive similarities with respect to the Baule Empty Subject Construction (ESC), presented in Chapter 3. A common account for the two constructions will be presented in Chapter 4.

Creider (1986) was the first author to undertake a formal treatment of the EOC. He discusses 27 sentences, including (2.3) and (2.4), collected from renown Norwegian authors and listed in the 1921 *Riksmåls-grammatik* of August Western.

- (2.3) **Han vridde ytterdørsnøkkelen rundt i laasen**
 He turn.PAST outdoor.key.DEF round in lock.DEF
og stak i trøielommen.
 and stick.PAST in jacket.pocket.DEF
'He turned the outdoor key round in the lock and stuck (it) in his jacket pocket.'
 (Norwegian, Creider 1986, cited from the writings of Falkberget)
- (2.4) **Hun tok bunken og gik ned til dronningen med.**
 She take.PAST stack.DEF and go.PAST down to queen.DEF with
'She took the stack and went down to the queen with (it).'
 (Norwegian, Creider 1986, cited from Asbjørnsen og Moe)

These examples show that the unexpressed object can either be the complement of a verb, as in (2.3), or a prepositional object, as in (2.4). After Creider's (1986) paper, the Norwegian EOC was revisited by Åfarli and Creider (1987) and then taken up by Johnsen (1988), den Dikken (1991) and Bodomo (1993, 1997).

The EOC occurs in a subset of Norwegian varieties. Creider (1986) and Åfarli and Creider (1987) arrive at the geographical generalization that EOC is consistently rejected by speakers from Oslo and consistently accepted by speakers from Hordaland, Rogaland, Trøndelag, Nordland and Troms (Creider 1986, p. 5; Åfarli and Creider 1987, p. 340).

Creider (1986) mentions that EOC-Norwegian speakers often volunteer the information that EOC is the unmarked option in their dialect. The variant without the overt pronoun is preferred by such speakers.

- (2.5) **Han tok mynten og kastet (den) i kurven.**
 He take.PAST coin.DEF and throw.PAST (it) in basket.DEF.
He took the coin and threw (it) in the basket.
 (Norwegian, Johnsen 1988, p. 198, ex. 12a.)

Additionally, also noted by Creider (1986), speakers find EOC more natural when the first conjunct object is indefinite rather than definite.

- (2.6) **Han skrev brevet og sendte til England.**
 he write.PAST letter.DEF and send.PAST to England
'He wrote the letter and sent (it) to England.'
 (Norwegian)

Speakers prefer (2.1) to (2.6), but both are acceptable.

The EOC or EOC-like constructions occur in other Scandinavian languages. Vikner (2003) discusses Danish examples.

- (2.7) **Kvinden har taget en gås frem og lagt (den) på bordet.**
 woman.DEF has taken a goose out and put (it) on table.DEF
'The woman has taken out a goose and put (it) on the table.'
 (Danish, Vikner 2003, p. 371, ex. 24a. & b.)

Anna-Lena Wiklund (p.c.) informs me that similar examples exist in Swedish.

- (2.8) **Han stal bilar och sålde.**
 he stole cars and sold
'He stole cars and sold (them).'
 (Swedish)

Rögnvaldsson (1990) and Pouplier (2003) discuss EOC in Modern Icelandic.

- (2.9) **Hann þreif blaðið og reif í tætlur.**
 he grasp.PAST paper.DEF and tear.PAST to pieces
'He grasped the paper and tore (it) to pieces.'
 (Modern Icelandic, Rögnvaldsson 1990, p. 368, ex. 2.)

Creider (1986) and Rögnvaldsson (1990) treat Old Norse EOC examples from the 1906 *Norrøn syntax* of M. Nygaard.

- (2.10) **þar fundu þeir tǫtrabagga einn, er verit hafði i ǫrkinni,**
 there find.PAST they ragbag a which been had in chest.DEF
ok fengu Þrándi.
 and give.PAST Trond.
'There they found a ragbag, which had been in the chest, and gave (it) to Trond.'
 (Old Norse, Creider 1986, from *Norrøn syntax*)

- (2.11) **Magnús konungr lét gera skrin og búa gulli ok silfi.**
 Magnus king had made chest and decorated (it) gold and silver
ok setja steinum
 and set stone.PL
'King Magnus had a chest made and decorated with gold and silver and set with stones.' (Old Norse, Creider 1986, from *Norrøn syntax*)

In this chapter, I set EOC in other languages aside and discuss only Norwegian data.

In Section 2.2, EOC data is presented that illustrates the behavior of the construction and the constraints in effect on it. In Section 2.3, it is argued that the unexpressed object of the EOC is a null pronoun and supporting data is supplied. Under this view, Norwegian is an object drop language, but licensing requirements restrict the occurrence of null objects to second conjuncts of EOC. Section 2.4 summarizes data that prove problematic for a null object account of EOC. Section 2.5 presents a preliminary proposal for the structure of EOC and Section 2.6 an account of null object licensing in Norwegian. Chapter 4, building on this basis, will develop a detailed account of null pronouns in second conjuncts that covers both the Norwegian EOC and the Baule ESC.

2.2 Characteristics of the EOC

In this section, I review the Norwegian data that demonstrate the patterns of characteristics and constraints associated with EOC.

2.2.1 No subject in second conjunct

The second conjunct of the EOC cannot contain a subject.

- (2.12) **Jens skrev et brev og sendte (det) til England.**
 he write.PAST a letter and send.PAST (it) to England
'He wrote a letter and sent (it) to England.'
 (Norwegian, Creider 1986, p. 11, ex. 48a.)

- (2.13) **Jens skrev et brev og Marit sendte *(det) til England.**
 he write.PAST a letter and Marit send.PAST *(it) to England
'Jens wrote a letter and Marit sent (it) to England.'
 (Norwegian)

This restriction holds for both full NP and pronominal subjects, as pointed out by Johnsen (1988).

- (2.14) **Han tok mynten og han kastet *(den) i kurven.**
 He take.PAST coin.DEF and he throw.PAST *(it) in basket.DEF
'He took the coin and threw (it) in the basket.'
 (Modern Norwegian, Johnsen 1988, p. 198, ex. 12d)

- (2.15) **Jens skrev et brev og han sendte *(det) til England.**
 Jens write.PAST a letter and he send.PAST *(it) to England
'Jens wrote a letter and he sent (it) to England.'

Creider (1986) cites (2.16) as a grammatical EOC example with two subjects.

- (2.16) **Jens hogg ved, og Per stablet opp.**
 Jens chop.PAST firewood and Per stack.PAST up
'Jens chopped firewood and Per stacked (it) up.'
 (Norwegian, Creider (1986), p. 8, ex. 33 and Åfarli and Creider (1987), p. 342, ex. 16)

Åfarli and Creider (1987) amend this point of view, attributing the grammaticality of (2.16) to an intransitive use of **stablet opp**, shown by (2.17) to be acceptable in a simple, non-EOC sentence.

- (2.17) **Jens stablet opp.**
 Jens stack.PAST up
'Jens stacked.'

Under this view (2.16) is not a genuine EOC.

2.2.2 No auxiliaries in second conjunct

The second conjunct of the EOC cannot contain auxiliary verbs.

- (2.18) **Han tok mynten og ville ha kastet *(den) i kurven.**
 He take.PAST coin.DEF and would have throw.PART *(it) in basket.DEF
'He took the coin and would have thrown (it) in the basket.'
 (Modern Norwegian, Johnsen 1988, p. 198, ex. 12b.)

This restriction holds not only of modal auxiliaries, as pointed out by Johnsen (1988), but for all auxiliaries.

- (2.19) **Jens har rettet et brev og sendt (det) til England.**
 Jens has correct.PAST a letter and send.PART (it) to England
'Jens has corrected a letter and has sent (it) to England.'
- (2.20) **Jens har rettet et brev og har sendt *(det) til England.**
 Jens has correct.PART a letter and has send.PART *(it) to England
'Jens has corrected a letter and has sent (it) to England.'

This contrast demonstrates that the present perfect EOC is acceptable as long as the second conjunct does not contain an auxiliary.

2.2.3 Conjuncts match in tense/aspect

The verbs in both conjuncts of the EOC are required to bear the same tense/aspect.

- (2.21) **Jens skrev et brev og sender *(det) til England.**
 he write.PAST a letter and send.PRES *(it) to England
'Jens wrote a letter and sends (it) now to England.'

If the conjuncts do not match in tense/aspect, an overt pronoun must be used.²

² There is an apparent exception to this restriction in Western's list.

- (i) **Unger har samlet tørtang i saater og sat ild paa.**
 Unger has collect.PERF seaweed in pile.PL and set.PAST fire to
'Unger collected seaweed in piles and set (it) on fire.'
 (Norwegian, Creider 1986, from Bojer)

Here the first conjunct is in the present perfect while the second verb is a past tense.

2.2.4 No floated quantifier in second conjunct

In Norwegian, quantifiers can be floated off the subject, as illustrated by the following examples.

- (2.22) **Alle barna la mynten i kurven.**
 all children.DEF laid coin.DEF i basket.DEF
'All the children laid the coin in the basket.'

- (2.23) **Barna la alle mynten i kurven.**
 children.DEF laid all coin.DEF i basket.DEF
'All the children laid the coin in the basket.'

Quantifier float is constrained in the EOC.

- (2.24) **Barna tok mynten og la (*alle) i kurven.**
 children.DEF took coin.DEF and laid (*all) i basket.DEF
 Intended reading: 'The children took the coin and all laid it in the basket.'

A floated quantifier is not possible in the second conjunct.

2.2.5 No negation in second conjunct

The second conjunct of the EOC cannot contain negation.

- (2.25) **Jens skrev et brev og sendte *(det) ikke til England.**
 he write.PAST a letter and send.PAST *(it) not to England
'Jens wrote a letter and didn't send (it) to England.'

Negation can only occur in the first conjunct.

- (2.26) **Jens rettet ikke noe brev og sendte (det) til England.**
 Jens correct.PAST not any letter and send.PAST (it) to England
'Jens didn't correct any letter and send it to England.'

EOC-Norwegian speakers prefer the empty object to the pronoun in (2.26).

2.2.6 Adverbs restricted in second conjunct

Johnsen (1988) states that no adverbs can appear in the second conjunct of EOC and gives the following example.

- (2.27) **Han tar en mynt og kaster *(den) alltid i kurven.**
 He take.PRES a coin and throw.PRES ***(it)** always in basket.DEF
'He takes a coin and always throws (it) in the basket.'
 (Norwegian, Johnsen 1988, p. 198, ex. 12c.)

My discussion with Norwegian speakers has turned up cases of acceptable adverbs, however. Consider the following example from Western's list, found in the work of the Norwegian author Hamsun.

- (2.28) **Stundom tog jeg op to Ortestykker af Lommen og klirred med.**
 time.to.time took I up two ore.pieces from pocket and jingled with
'From time to time I took two ore pieces from my pocket and jingled with them.'
 (Norwegian, Creider 1986, from Hamsun)

It is possible to add the adverb **høyt** 'loudly' to the second conjunct.

- (2.29) **Stundom tog jeg op to Ortestykker af Lommen og klirred høyt med.**
 time.to.time took I up two ore.pieces from pocket and jingled loudly with
'From time to time I took two ore pieces from my pocket and jingled with them loudly.'
 (Norwegian, adapted from example from Hamsun)

Other adverbs that are acceptable in the second conjunct include **raskt**, 'quickly', and **forsiktig**, 'carefully'.

- (2.30) **Han tar en mynt og legger raskt på plass.**
 He takes a coin and lays quickly in place
'He takes a coin and lays it quickly in place.'
 (Norwegian)

- (2.31) **Han tar en mynt og legger forsiktig på plass.**
 He takes a coin and lays carefully in place
'He takes a coin and lays it carefully in place.'
 (Norwegian)

An unacceptable adverb is **sannsynligvis**, 'probably'.

- (2.32) ??**Jens skrev et brev og sendte sannsynligvis til England.**
 Jens write.PAST a letter and send.PAST probably to England
'Jens wrote a letter and immediately sent it to England.'
 (Norwegian)

An adverb intervening between the coordinator and the verb is always unacceptable. Examples involving main clauses are uninformative, since adverbs are prohibited in this position both in EOC and in standard coordination (i.e. coordination with no empty object).

- (2.33) ***Han tar en mynt og raskt legger (det) på plass.**
 He takes a coin and quickly lays (it) in place
 Intended reading: *'He takes a coin and quickly lays it in place.'*
 (Norwegian)

EOC can be built with main clause coordination, as in (2.34), or by coordination within a dependent clause, as in (2.35)'.

- (2.34) **Jens kjøpte en ring og gav Marit.**
 Jens buy.PAST a ring and give.PAST Marit
'Jens bought a ring and gave (it) to Marit.'
 (Norwegian, Åfarli and Creider (1987), p. 342, ex. 18)

- (2.35)' **Jens sier at han tar en mynt og legger (den) på bordet.**
 He says that he takes a coin and lays (it) on table.DEF
'Jens says that he takes a coin and quickly lays it on the table.'
 (Norwegian)

Dependent clause EOC is more appropriate to illustrate that nothing can intervene between the conjunction and the verb of the second conjunct.

- (2.35) **Jens sier at han tar en mynt og legger (den) raskt på bordet.**
 He says that he takes a coin and lays (it) quickly on table.DEF
'Jens says that he takes a coin and quickly lays it on the table.'
 (Norwegian)
- (2.36) **Jens sier at han tar en mynt og raskt legger *(den) på bordet.**
 He says that he takes a coin and quickly lays *(it) on table.DEF
'Jens says that he takes a coin and quickly lays it on the table.'
 (Norwegian)

If an adverb intervenes between the coordinator and the second verb, an empty object is not admitted.

2.2.7 No empty object in sentential complement of second verb

Åfarli and Creider (1987) point out that the clause containing the empty object cannot occur in a sentential complement embedded in the second conjunct. In other words, examples like (2.37) are not possible.

- (2.37) ***Jens kjøpte en ring**
 Jens buy.PAST a ring
og sa at han ville gi Marit.
 and said that he would give Marit
 Intended reading: 'Jens bought a ring and said that he would give it to Marit.'
 (Åfarli and Creider 1987, p. 340 ex. 8)

This example shows empty objects are subject to constraints other than standard Island effects (Åfarli and Creider 1987 p. 341).

2.2.8 Only simple and-coordination admitted

In Norwegian, the EOC construction can involve only a single type of coordination, coordination with the conjunction **og**, 'and'. Creider (1986) discusses this restriction, and gives the following example.

- (2.38) **Per så fuglene eller hørte *(dem) i hvert fall.**
 Peter see.PAST bird.DEF.PL or hear.PAST *(them) in any case
 'Per saw birds, or heard them at any rate.'
 (Norwegian, Creider 1986, p. 9, ex. 41)

This example shows that direct objects cannot be empty in second conjuncts unless coordination is effected with a simple *and*.

Johnsen (1988) also points out that in EOC only **og**, 'and', can join the conjuncts.

- (2.39) **Han tok ikke mynten men kastet *(den) i kurven.**
 He take.PAST not coin.DEF but throw.PAST *(it) in basket.DEF.
 (Norwegian, Johnsen 1988, p. 198, ex. 12b.)

Neither **eller**, 'or', or **men**, 'but' can be used as the coordinator in EOC.

2.2.9 *Object gap of the EOC does not license a parasitic gap*

The empty object of the EOC does not license a parasitic gap. This fact was pointed out by Åfarli and Creider (1987), who present the following contrast.

- (2.40) **Slike ringer er vanskelige å selge**
such rings are difficult to sell

uten å ha pusset med gullpuss først.
without to have polished with gold.polish first

'Such rings are difficult to sell without having polished with gold polish first.'
(Norwegian, Åfarli and Creider 1987, p. 344, ex. 26)

- (2.41) ***Jens kjøpte en ring og gave Marit**
Jens buy.PAST a ring and give.PAST Marit

etter å ha pusset med gullpuss først.
after to have polish.PART with gold.polish first

Intended reading: *'Jens bought a ring and gave it to Marit after having polished it with gold polish first.'*
(Norwegian, Åfarli and Creider 1987, p. 344, ex. 27)

The *tough*-movement construction in (2.40) demonstrates that parasitic gaps are possible in Norwegian. Example (2.41) shows that parasitic gaps are nonetheless not licensed by the empty object in the EOC.

2.2.10 *Initial conjunct expresses an action of obtaining*

In Norwegian, there are strict restrictions on which verbs can occur in the initial conjunct of EOC. Creider (1986) notes that 11 of Western's 27 sentences use **ta**, 'take', as the first verb. He points out that this verb is semantically empty and says that it apparently has aspectual significance (p. 10), a comment upon which he does not elaborate.

It is clear that although many EOCs have first verbs that can be considered semantically empty, semantic emptiness is not a requirement for first verbs, such as demonstrated by (2.1) from above (repeated) or by (2.42) from Western's list.

- (2.1) **Han skrev et brev og sendte til England.**
 he write.PAST a letter and send.PAST to England
'He wrote a letter and sent (it) to England.'
 (Norwegian, Creider 1986, p. 11, ex. 48a.)
- (2.42) **Naar jeg gik hjem igjen, skød jeg alltid en eller anden Fugl
 og stak i Væsken.**
 When I go.PAST home again shoot.PAST I always one or other bird
 and stuck.PAST in bag.DEF
'When I returned home, I always shot one or another bird and stuck it in my bag.'
 (Norwegian, Creider 1986, from Hamsun)

It is also clear that the relevant restriction does not involve affectedness. The following three examples involve verbs whose objects are affected to different degrees.

- (2.43) ??**Han kysset mynten og la i kurven.**
 He kiss.PAST coin.DEF and lay.PAST in basket.DEF
'He kissed the coin and laid it in the basket.'
- (2.44) ??**Han pusset mynten og la i kurven.**
 He polish.PAST coin.DEF and lay.PAST in basket.DEF
'He polished the coin and laid it in the basket.'
- (2.45) ??**Han bøyde mynten og la i kurven.**
 He bend.PAST coin.DEF and lay.PAST in basket.DEF
'He bent the coin and laid it in the basket.'

These examples are all marginal, independently of the affectedness of the first-conjunct object.

A generalization that is consistent with the pattern displayed (2.43) - (2.45) and by Western's entire list is that the first-conjunct verb must express an action in which an agent takes possession of or control over an object. This generalization is able to subsume (2.46).

- (2.46) **Han fant forskjellige slags trær ... og bragte hjem med sig.**
 He find.PAST different types wood and bring.PAST home with self
'He found different kinds of wood... and brought (them) home with him.'
 (Norwegian, Creider 1986, from Nansen)

The verb *find* belongs to a class of verbs that is characterized by Levin (1993) as being verbs of obtaining.

Johnsen (1988) is also aware that restrictions exist on which verbs can be used as the first verb in EOC. He points out that it is not possible for the first verb in EOC to be a verb of destruction.

- (2.47) ***Han ødela mynten og kastet i kurven.**
 He destroy.PAST coin.DEF and throw.PAST in basket.DEF
'He destroyed the coin and threw (it) in the basket.'
 (Norwegian, Johnsen 1988, p. 198, ex. 12f.)

If the first conjunct contains the verb *destroy*, the object of the second conjunct must be an overt pronoun.

- (2.48) **Han ødela mynten og kastet den i kurven.**
 He destroy.PAST coin.DEF and throw.PAST it in basket.DEF
'He destroyed the coin and threw it in the basket.'
 (Norwegian, Johnsen 1988, p. 198, ex. 12f.)

The unacceptability of (2.47) can be related to the fact that the verb *destroy* does not express an action of obtaining.

It seems that the strict constraint on the first verb of the EOC is characteristic of Norwegian. In Modern Icelandic there apparently is a wide range of freedom concerning which verbs can be used.

- (2.49) **Ég elska þig og dái.**
 I love you and admire
'I love you and admire (you).'
 (Modern Icelandic, Rögnvaldsson 1990, p. 370, ex. 11c.)

In this example both verbs are psychological verbs. Such examples are not acceptable in Norwegian.

- (2.50) ***Jeg elsker deg og beundrer.**
 I love.PRES you and admire.PRES
 Intended reading: 'I love you and admire you.'

In Norwegian, it is necessary to use an overt object pronoun in the second conjunct in such examples.

- (2.51) **Jeg elsker deg og beundrer deg.**
 I love.PRES you and admire.PRES you
 'I love you and admire you.'

The verb **kjenne**, 'know', is also not acceptable when used as the first verb in Norwegian.

- (2.52) **Jeg kjente boken og kjøpte *(den) til Marit.**
 I know.PAST book.DEF and buy.PAST *(it) for Marit
 'I knew the book and bought it for Marit.'

This example contrasts with the following example in which the first verb is *take*.

- (2.53) **Jeg tok boken og kjøpte (den) til Marit.**
 I take.PAST book.DEF and buy.PAST (it) for Marit
 'I knew the book and bought it for Marit.'

Take complies with the requirement that the first verb in EOC must be a verb that expresses obtaining.

2.3 Unexpressed object is a null pronoun

In this section, I show that the empty objects of some EOC examples can be analyzed as pseudo-EOC involving implied objects (understood objects). Not all EOC examples can be accounted for with this analysis. Genuine EOC exists alongside pseudo-EOC.

The empty object in a genuine EOC example must be analyzed as a null pronoun that is projected into the syntax in the same way as an overt pronoun.

2.3.1 EOC involving implied objects

Creider (1986) considers the possibility that Norwegian EOC is garden variety VP-coordination of two verbs the second of which is used intransitively. Such coordination occurs in English.

(2.54) I opened the book and read.

In (2.54), **read** has an implied direct object. I follow the account of Rizzi (1986, p. 508) and assume that the direct object θ -role is saturated in the lexicon. Thus, the implied direct object projects and then fuses with the verb before the verb is Merged into the syntax. Assuming that direct objects project even in cases of transitive verb use insures that a given verb always makes the same contribution to the meaning of the sentence and makes it possible to implement a compositional system for semantic interpretation such as that laid out by Heim and Kratzer (1998).

It is appealing to equate empty objects with implied objects, since many EOC examples contain second verbs that can be used with implied objects in simple (non-coordinate) sentences.

- (2.55) **Han tok en sten og kastet på hesten.**
 he take.PAST a stone and throw.PAST at horse.DEF
'He took a stone and threw (it) at the horse.'
 (Norwegian, Creider 1986, p. 9, ex. 43)

- (2.56) **Jens kastet en sten. Han kastet på hesten.**
 he throw.PAST a stone he throw.PAST at horse.DEF
'Jens threw a stone. He threw at the horse.'

In Western's list of EOC, some examples clearly involve second verbs which can take implied objects.

- (2.57) **Jens hugg ved og stablet op.**
 Jens chop.PAST wood and stack.PAST up
'Jens chopped firewood and piled (it) up.'
 (Norwegian, Creider 1986, cited from Falkberget)

As showed above in (2.17) (repeated) **stablet opp** is not required to express an overt object in a simple sentence.

- (2.17) **Jens stablet opp.**
 Jens stack.PAST up
'Jens stacked.'

Under this account there would be no reason to posit a difference between the empty object in the EOC and an implied object in a simple sentence.

However, it is essential not to lose sight of the contrast pointed out by Creider (1986).

- (2.1) **Han skrev et brev og sendte til England.**
 he write.PAST a letter and send.PAST to England
'He wrote a letter and sent (it) to England.'
 (Norwegian, Creider 1986, p. 11, ex. 48a.)
- (2.2) ***Han sendte til England.**
 he send.PAST to England
 (Norwegian, Creider 1986, p. 11, ex. 48b.)

The fact that the verb 'to send' cannot be used with an implied object in a simple sentence speaks strongly against an account that analyzes all EOC examples as involving implied objects. I conclude that (2.1) is an example of genuine EOC that exists alongside of pseudo-EOC such as (2.57). I do not give further consideration in this treatment to examples of pseudo-EOC.

2.3.2 *Empty object of EOC is syntactically active*

The empty object of EOC can be demonstrated to be syntactically active, further evidence against analyzing it as an implied object. Rögnvaldsson (1990) applies Rizzi's (1986) syntactic tests in order to demonstrate that the object gap in Modern

Icelandic EOC is syntactically active. Although I do not discuss Icelandic further, I use Rögnvaldsson's (1990) Icelandic examples to demonstrate Rizzi's (1986) tests.

The first test concerns the ability of the empty object to bind a reflexive.

- (2.58) **Ég hjálpaði honum_i á fötur og fylgdi ec_i heim til sín_i**
 I helped him_i on feet and followed ec_i home to self_i
'I helped him to his feet and followed him to his home.'
 (Modern Icelandic, Rögnvaldsson 1990, p. 370, ex. 16)

Example (2.58) demonstrates that in Modern Icelandic the empty object can bind a reflexive. Rögnvaldsson (1990) cites (2.59) to demonstrate that the binder is not the object of the first clause.

- (2.59) ***Ég hjálpaði honum_i á fötur og fylgdi þér heim til sín_i**
 I helped him_i on feet and followed you home to self_i
 Intended reading: *'I helped him to his feet and followed you to his home.'*
 (Modern Icelandic, Rögnvaldsson 1990, p. 371, ex. 18)

In Norwegian, it is also possible to construct EOC examples in which the empty object binds a reflexive. Example (2.60) shows that a possessive reflexive can be bound by a direct object located in the same clause.

- (2.60) **Jeg tok mynten og la den_i på plassen sin_i**
 I take.PAST coin.DEF and lay.PAST it_i on place.DEF REFL.POSS_i
'I took the coin and put it in its place.' (Norwegian)

Example (2.61) demonstrates that in EOC-Norwegian this pronominal object can be dropped, creating an EOC construction in which the empty object binds a reflexive.

- (2.61) **Jeg tok mynten_i og la ec_i på plassen sin_i.**
 I take.PAST coin.DEF_i and lay.PAST ec_i on place.DEF REFL.POSS_i
'I took the coin and put (it) in its (the coin's) place.' (Norwegian)

Finally, (2.62) confirms that it is indeed the empty object that is binding the pronoun in (2.61) and not the direct object of the first conjunct.

- (2.62) **Jeg tok mynten_i og la blomsten_k på plassen sin_{*i/k}**
 I take.PAST coin.DEF_i and lay.PAST flower.DEF_k on place.DEF REFL.POSS_{*i/k}
'I took the coin and put the flower in its (the flower's) place.'
**'I took the coin and put the flower in its (the coin's) place.'* (Norwegian)

In EOC-Norwegian, there seems to be a general tendency to prefer EOC examples in which the empty object refers to an inanimate object over EOC examples in which the empty object refers to an animate. This preference is reflected in the opinion offered by one native speaker that (2.61) is a more acceptable sentence than

- (2.63) **Jeg tok barnet_i og la i senga si_i**
 I take.PAST child.DEF_i and lay.PAST in bed.DEF REFL.POSS_i
'I took the child and laid (him) in bed.' (Norwegian)

Both sentences are, however, acceptable.

Rizzi's (1986) second test for syntactic activeness concerns the ability of the unexpressed object to control subject PRO. In Modern Icelandic the object gap of EOC can, marginally Rögnvaldsson's judgment, control subject PRO.

- (2.64) **?Ég hótaði honum_i og skipaði ec_i að PRO_i fara.**
 I threatened him_i and ordered ec_i to PRO_i leave
'I threatened him and ordered him to leave.'
 (Modern Icelandic, Rögnvaldsson 1990, p. 371, ex. 19)

Examples like (2.) in which the empty object controls the PRO subject of an infinitival complement are not acceptable in EOC-Norwegian.

- (2.65) **Han hente barna_i og ba *(dem_i) PRO_i feie.**
 he call.PAST children.DEF.PL_i and order.PAST *(them_i) PRO_i sweep
'He called the children and ordered them (the children) to sweep.'
- (2.66) **Han hente barna_i og ba *(dem_i) PRO_i om å feie.**
 he call.PAST children.DEF.PL_i and order.PAST *(them_i) PRO_i to sweep
'He called the children and ordered them (the children) to sweep.'

In these examples, it is not possible to drop the object of the second conjunct that controls PRO. I consider this test to be inconclusive for Norwegian due to the

interfering effects of an animate empty object. Above we saw that EOC-Norwegian speakers prefer empty objects to refer to inanimate entities.

Rizzi's (1986) final test for syntactic activeness involves the ability of the unexpressed object to be modified by a small clause. Rögnvaldsson (1990) uses the following example to demonstrate that such modification is permitted in Modern Icelandic.

- (2.67) **Ég uppörvaði Harald_i og gerði ec_i stoltan af sjálfum sér_i.**
 I encourage.PAST Harold_i and make.PAST ec_i proud of himself_i
'I encouraged Harold and made him proud of himself.'
 (Modern Icelandic, Rögnvaldsson 1990, p. 371, ex. 22)

In Norwegian, EOC examples like (2.67) in which a small clause modifies the empty object are only marginally acceptable, as illustrated in (2.68).

- (2.68) **?Han tok mynten og pusset blank.**
 he take.PAST coin.DEF and polish.PAST shiny
'He took the coin and polished it shiny.'
 (Norwegian)

EOC-Norwegian speakers report that (2.68) has a distinct literary flavor and emphasize that such sentences are preferable with an overt object pronoun in the place of the empty object. The contrast in acceptability in Norwegian is not the same as the very striking contrast in English.

- (2.69) **He took the stone and rubbed it dry**

- (2.70) ***He took the stone and rubbed dry**

The English example lacking an overt pronoun is quite clearly unacceptable. This contrast supports the conclusion that unexpressed objects in EOC in Norwegian are syntactically active, in contrast to unexpressed objects in the corresponding coordination in English. One of Creider's (1986) original examples from the list from Western's 1921 *Riksmåls-grammatik* contains just such a small clause.

- (2.71) **Nu kan du ta denne svarte ulden og vaske hvit.**
 now can you take this black wool and wash white
'Now you can take this black wool and wash it white.'
 (Norwegian, Creider 1986, from Asbjørnsen og Moe)

The existence of this example supports the claim that the small clause test of Rizzi (1986) has provided us with positive evidence of the fact that the empty object in Norwegian EOC is syntactically active.

In sum, two of Rizzi's (1986) tests have diagnosed the object gap in Norwegian EOC as syntactically active, while the third turned out to be inconclusive. In the balance, Rizzi's (1986) tests constitute evidence that the empty object of the EOC is active in the syntax. This evidence provides a basis for the conclusion that Norwegian EOC (excluding pseudo-EOC) involves a null pronoun.

2.3.3 *Empty object receives an E-type reading*

The interpretations given the Norwegian EOC provide further evidence that the empty object is a null pronoun. In this section, I demonstrate the object gap in the second conjunct of the EOC receives an E-type reading (Cooper 1979, Evans 1980, Heim 1990) when the object of the first conjunct is an appropriate quantified NP. The empty object is in this way different from an implied object. I recapitulate Evans' (1980) views in the following summary of what an E-type pronoun is and how an E-type pronoun is to be identified.

An E-type pronoun is a pronoun that has a quantified NP as its antecedent, but is not bound by this NP.

- (2.72) **Jens wrote only two letters and sent them to England.**

According to Evans (1980), there are two arguments which together demonstrate that a pronoun is not bound by a quantified NP. First, if the scope of the quantified NP does not include the clause containing the pronoun, then the quantified NP does

not bind the pronoun. If the quantified NP in (2.72) had wide scope, the sentence would be applicable in any situation in which there existed only two letters that Jens both wrote and sent to England. For example, Jens could have written a whole stack of letters, but sent only two to England. The sentence (2.72), however, does not apply to this situation, since it entails that Jens wrote only two letters total. The quantified NP in (2.72) can be concluded to have narrow scope. The scope of the quantified NP does not extend beyond the first conjunct and therefore the quantifier does not bind the pronoun in the second conjunct. Second, if the interpretation of the pronoun involves maximality effects, then the quantified NP does not bind the pronoun. This argument applies to (2.72) in the following way. The pronoun *them* in (2.72) is interpreted as referring to both of the letters Jens wrote. In a situation in which Jens sends only one letter he wrote to England, (2.72) does not apply. Rather, this sentence entails that Jens sends both of the letters that he wrote to England. The pronoun in (2.72) is considered to demonstrate a maximality effect because it refers to the maximal set of letters Jens wrote. With these two arguments, Evans (1980) demonstrates that a pronoun can be anteceded by a quantified NP without being bound by it. Evans calls such pronouns E-type pronouns, the term which is adopted for them here. Only certain quantifiers yield a contrast between E-type readings and bound readings. These are 'few', 'most', 'just one', 'only one', 'some', 'a' and numerals such as 'three.'

A key question arises at this juncture. If the quantified expression does not bind the pronoun in (2.72) what is exactly the relationship between the quantified NP and the pronoun? It is clear that the relationship between the quantified NP and the pronoun is not one of co-reference. Quantified NPs are not referring expressions. Because quantifiers do not refer, they cannot be co-referent with pronouns.

On the other hand, it is clear, that the pronoun in (2.72) is a referring expression. Evans (1980) points out that it is possible to pose a question regarding the reference of the pronoun. In particular, one could follow up (2.72) with a clarifying question.

(2.73) **What did Jens send to England?**

The answer to this question is quite naturally the following.

(2.74) **The two letters that he wrote.**

Evans (1980) provides a practical answer to the question of the relationship between the quantifier and the pronoun. He says an E-type pronoun is referential, but that it is not co-referential with the quantified NP. Rather, an E-type pronoun is co-referential with the set of entities that *verify* the clause containing the quantified NP antecedent.³ In a footnote, he clarifies that the set of objects verifying the antecedent clause is the set of objects that makes that clause true. Thus, in the case of (2.75), upon utterance of the first conjunct *Jens picked up only two coins* a set of coins that makes this proposition true is introduced as a discourse referent. The pronoun in the second conjunct then refers back to this set of coins.

In this discussion, I have treated E-type pronouns occurring in sentences like (2.75).

(2.75) **John owns some sheep and Harry vaccinates them in the Spring.**
(Evans 1980, p. 339, ex. 8)

Such examples involve the simplest kind of E-type pronoun. My discussion of E-type readings in Norwegian EOC includes only examples of this simple kind of E-type

³ It is imaginable to object that the quantified NP should not be referred to as the 'quantifier antecedent' of the pronoun since there is neither a binding nor a co-reference relationship between the two. The designation 'quantifier antecedent' is used consistently by Evans (1980), and I adopt it because of its convenience.

pronoun. This kind of E-type pronoun can be identified with Evans' two arguments discussed above. It is important to call attention to the fact that there are more complex examples of E-type pronouns.

(2.76) **Every villager owns some donkeys and feeds them at night.**

(Evans 1980, p. 353, ex. 39)

Evans (1980) points out that in such cases it is not possible to ask the question of what group of donkeys the pronoun in (2.76) refers to. In other words, there is no set of entities that verifies the first clause. The factor that makes (2.76) different from (2.75) is that the quantifier antecedent of the E-type pronoun is c-commanded by another quantified element. This state of affairs holds in the well-known E-type pronoun example in (2.77).

(2.77) **Every man who owns a donkey beats it.**

(Cooper 1979, p. 80, ex. 55 from Geach 1962)

I will not be discussing E-type pronouns whose quantifier antecedent is c-commanded by another quantified NP, since the simple cases will be enough to pursue the goal of this chapter, which is to demonstrate that the empty objects of Norwegian EOC do not receive bound readings, but rather receive E-type readings.

In order to test for E-type readings, it is necessary to have an EOC example in which the object of the first verb is a quantified NP.

(2.78) **Jens skrev bare to brev og sendte til England.**

Jens write.PAST only two letter and send.PAST to England

'Jens wrote only two letters and sent them to England.'

(Norwegian)

We can use Evans' (1980) two arguments to show that the empty object in this example receives an E-type reading. First, the scope of the quantifier does not extend beyond the first conjunct since the example entails that Jens wrote a total of two letters. Second, the example displays maximality effects since it entails that Jens

sent both of the letters he wrote to England. Note that (2.78) is identical in this regard to (2.79).

- (2.79) **Jens skrev bare to brev og sendte dem til England.**
 Jens write.PAST only two letter and send.PAST them to England
'Jens wrote only two letters and sent them to England.'
 (Norwegian)

Both the empty object and the overt pronoun which replaces it receive an E-type reading.

The fact that empty objects receive E-type readings clearly demonstrates that not all empty objects in EOC can be analyzed as implied objects. Implied objects do not receive E-type readings.

- (2.80) **Jens wrote only two letters and read.**

Although this example entails that Jens wrote only two letters total, it does not display maximality effects. It is possible to continue the discourse with (2.81).

- (2.81) **He read one letter.**

Because of the lack of maximality effects we can conclude that the implied object of **read** does not receive an E-type reading. The failure of implied objects to exhibit maximality effects can be related to the fact that they are not referential.⁴ Recall that E-type pronouns can be considered referential in that they refer to the set of entities that verify the clause containing the quantifier antecedent.

⁴ Consider the following coordination with two pronoun objects.

- (i) **He read it and he read it.**

This coordination expresses a redundancy. If one conjunct contains an implied object and one an overt pronoun, the impression of redundancy is alleviated.

- (ii) **He read and he read it.**

This contrast arises because pronouns have referential interpretations and implied objects do not.

In Norwegian, genuine EOC is associated with maximality effects.

- (2.82) **Jens skrev tjue brev og sendte til England.**
 Jens write.PAST twenty letter and send.PAST to England
'Jens wrote twenty letters and sent (them) to England.'

It is not possible to follow (2.82) with a sentence asserting that less than these twenty letters were sent.

- (2.83) **#Han sendte bare ti brev.**
 He send.PAST only ten letter
'He only sent ten letters.'

Genuine EOC contrasts in this way with pseudo-EOC, in which I claim that the second verb is used intransitively.

- (2.84) **Jens hogg tjue vedskier og stablet opp.**
 Jens chop.PAST twenty wood.pieces and stacked up
'Jens chopped twenty pieces of wood and stacked (them) up.'

In this case, it is not inappropriate to follow up with a sentence that asserts that less than the twenty pieces of wood that Jens chopped were stacked.

- (2.85) **Han stablet bare ti vedskier.**
 He stack.PAST only ten wood.pieces
'He only stacked ten wood pieces.'

An empty object that receives an E-type reading cannot be an implied object.⁵

⁵ A possible objection to this conclusion concerns the fact that implied objects have been analyzed in the literature as occurring in both indefinite and definite varieties and that the empty object is the definite variety. Olsen and Resnik (1997) illustrate the difference with the following examples.

- (i) **Benjamin cooked [something] this morning.**
 (ii) **Benjamin won [the game] this morning.**

The implied object in (i) does not refer to any particular foodstuff, whereas in (ii) the speaker conveys the idea that there is a particular game that Benjamin has won. At first appearance, it seems possible that the maximal interpretation associated with EOC could be attributed to the understood object being a definite, like the understood object of *win* in (ii). Support for this explanation derives from the fact that the understood object of verbs such as *win*, is clearly consistent with a maximal interpretation when used in the second conjuncts of EOC-like coordination in English.

This section has shown that not all examples which appear to be EOCs actually contain empty objects that are projected as pronouns and are active in the syntax. I have demonstrated that there does indeed exist a set of examples that are genuine EOCs. These examples can be subjected to structural tests to prove that they contain a syntactically active empty object. Further, the interpretation of unexpressed objects in EOC makes it possible to differentiate true empty objects from the understood objects of otherwise syntactically intransitive verbs. The E-type reading test provides proof that empty objects must be pronouns.

2.4 Additional Data

This section contains data that presents a challenge for the account proposed here, which maintains that the empty object of Norwegian EOC is a null pronoun and is not c-commanded by the first-conjunct object.

2.4.1 *Empty object restricted in reference*

The empty object of EOC is constrained in its reference and contrasts in this way with an overt pronoun in the same position. The overt pronoun in (2.86) can refer to the two letters Jens wrote or can refer to some other entities.

(iii) **Benjamin played three soccer games yesterday and won.**

The most natural interpretation of (iii) is that Benjamin won all three of the games that he played yesterday. This sentence, however, can be easily followed by the discourse continuation in (iv) which denies that Benjamin won all three of the games.

(iv) **He won exactly two of the games.**

This possibility is most clearly available if the context supplies the information that Benjamin has never won a soccer game in his life. In the case of the Norwegian EOC example above, it is not possible to construct a discourse continuation that denies the implication that the number of letters sent is less than the maximal number of letters written.

(2.86) = (1.2) **Jens skrev to brev_i og sendte dem_{i/k} til England.**
 Jens write.PAST two letter_i and send.PAST them_{i/k} to England
'Jens wrote two letters and sent them to England.'

The empty object in the corresponding EOC in (2.86)' must refer to the two letters Jens wrote and cannot have extrasentential reference.

(2.86)' = (1.1) **Jens skrev to brev_i og sendte ec_{i/*k} til England.**
 Jens write.PAST two letter_i and send.PAST ec_{i/*k} to England
'Jens wrote two letters and sent (them) to England.'

The term *referential coupling* proves helpful to describe this constraint. I will say that a null pronoun is referentially coupled to another argument, whenever it has no alternate reference open to it. Referential coupling of the empty object of EOC is unexpected if the empty object is a standard null pronoun.

The fact that the empty object cannot be interpreted with obviate reference is part of a more general dependence of the empty object on linguistic material in the same sentence. Åfarli and Creider (1987) carefully illustrate this dependence. First, they demonstrate that a discourse topic is not sufficient to license an empty object.

(2.87) ***Med hensyn til ringen_i: Lars kjøpte først blomster**
 with regard to ring.DEF_i Lars buy.PAST first flower.PL
og gav ec_i så til Marit.
 and give.PAST ec_i then to Marit
'As far as the ring is concerned, first Lars bought flowers and then he gave it to Marit.'
 (Norwegian, Åfarli and Creider 1987, p. 342, ex. 20)

The overt pronoun is not subject to this constraint.

(2.88) **Med hensyn til ringen_i: Lars kjøpte først blomster**
 with regard to ring.DEF_i Lars buy.PAST first flower.PL
og gav den_i så til Marit.
 and give.PAST it_i then to Marit
'As far as the ring is concerned, first Lars bought flowers and then he gave it to Marit.'
 (Norwegian, Åfarli and Creider 1987, p. 342, ex. 21)

Second, Åfarli and Creider (1987) point out that both clauses must be spoken by the same speaker.

(2.89) Speaker A: **Jens kjøpte en ring.**
 Jens buy.PAST a ring_i
Jens bought a ring.

Speaker B: ??**Og gav ec_i Marit**
 and give.PAST ec_i Marit
...and gave Marit.

(Norwegian, Åfarli and Creider 1987, p. 342, ex. 22).

A descriptive characterization of this restriction is that the first conjunct of EOC must express that an entity is obtained and this entity must be referred to by the empty object. A coordination in which the first conjunct does not contain a direct object⁶ referring to an obtained entity cannot be an EOC.

(2.90) ***Han gikk til postkontoret og sendte til England.**
 he went to post office and sent to England.
 Intended reading: *'He went to the post office and sent (it) to England.'*

If the empty object were a garden variety null pronoun, it would not be expected to be constrained in its reference. Den Dikken (1991) uses this fact to argue against a null pronoun account for EOC. Any analysis of EOC that proposes the empty object is a null pronoun must account for the fact that it cannot be interpreted with extrasentential reference and for the fact that it is dependent on linguistic material in the same sentence.

⁶ I would like to conflate the requirement that the first-conjunct nominal must be a direct object, with the requirement that V1 expressed an act of obtaining or taking into control. Indirect objects do not refer to obtained entities.

(i) **Jeg gav barnet_i et kyss og la *(det_i) i senga.**
 I give.PAST child.DEF_i a kiss and lay.PAST *(it_i) in bed.DEF
'I gave the child a kiss and put him to bed.'

Entities designated by indirect objects are often beneficiaries and thus frequently animate, making them marginal referents for empty objects.

2.4.2 Empty object does not always alternate with overt pronoun

Johnsen (1988) points out three cases of EOC in which the empty object does not alternate with an overt pronoun. The most interesting of these cases involves an object gap associated with a negative indefinite.

- (2.91) **Han tok ingen mynter og kastet på sjøen.**
 He took no coin.PL and threw in sea
'He didn't take any coins and throw them in the sea.'
 (Johnsen 1988, p. 199, ex. 14a.)

An overt pronoun in the position of the object gap causes the unacceptability expected of an E-type pronoun.

- (2.92) ***Han tok ingen mynter og kastet dem på sjøen.**
 He took no coin.PL and threw in sea
 Intended reading: *'He didn't take any coins and throw them in the sea.'*
 (Johnsen 1988, p. 199, ex. 14a.)

The acceptability of the object gap in (2.91) cannot be attributed to **kaste**, 'throw', being used intransitively.

- (2.93) **Han skrev ingen brev og sendte til England.**
 Han write.PAST no letter and sent.PAST to England
'He didn't write any letters and send them to England.'

Example (2.93) shows that a second-conjunct verb not admitting intransitive use also forms an acceptable EOC with a negative indefinite first-conjunct object.

Evans (1980) points out that E-type pronouns cannot have a quantifier antecedent that is a negative indefinite

- (2.94) ***John owns no sheep and Harry vaccinates them in the Spring.**
 (Evans 1980, p. 340, ex. 15)

This restriction is consistent with the fact that the pronoun refers to the set of entities that verify the clause containing the quantifier. When a negative indefinite is used, the entities verifying the clause is the empty set, which cannot be referred

to by a pronoun. The contrast between (2.91) and (2.92) is unexpected, since if the empty object is a pronoun we would expect it to be incompatible with negative indefinites, just like an overt pronoun.

Den Dikken (1991) supplies examples in which it appears that the negative indefinite **ingen** has scope over both conjuncts.

- (2.95) ***Jeg tok hvilkensomhelst av presangene og gav ingen av barna.**
 I took any of present.DEF.PL and gave none of children.DEF
 Intended reading: '*I didn't give any presents to any of the children.*'
 (Norwegian, den Dikken 1991, p. 16, ex. 54a.)

- (2.96) ?**Jeg tok ingen presanger og gav noen av barna.**
 I took no present.DEF.PL and gave none of children-DEF
 Intended reading: '*I didn't give any presents to any of the children.*'
 (Norwegian, den Dikken 1991, p. 16, ex. 54b.)⁷

These examples provide support for the view that the EOC admits a structural configuration in which the first-conjunct object c-commands the second conjunct of the EOC. Both **hvilken som helst** and **noen** are negative polarity items and therefore must occur in the scope of negation. Example (2.95) is unacceptable since the negative indefinite occurs in the second conjunct, which does not c-command the first. Example (2.96) is an improvement.

It seems necessary to assume two possible configurations for EOC. In the first, the first-conjunct object does not c-command the second conjunct and the empty object is able to receive an E-type reading, as in (2.78) (repeated).

⁷ The variant with an overt pronoun in place of the empty object is also marginal.

- (i) ??**Jeg tok ingen presanger og gav dem noen av barna.**
 I took no present.DEF.PL and gave them none of children-DEF
 Intended reading: '*I didn't give any presents to any of the children.*'

- (2.78) **Jens skrev bare to brev og sendte til England.**
 Jens write.PAST only two letter and send.PAST to England
'Jens wrote only two letters and sent them to England.'
 (Norwegian)

In the second configuration, the first-conjunct object moves to a position from which it c-commands the empty object, resulting in a bound reading, as in (2.96).

It is clear that the c-command configuration cannot underlie all EOC since then it would be impossible for the empty object to ever receive an E-type reading. A line of argumentation which seems worth pursuing is that the derivation resulting in the c-command configuration has last resort status. This possibility is used in cases in which the first-conjunct object is a negative indefinite and cannot be associated with a pronoun that it does not c-command. The possibility of c-command is clearly a last resort possibility only. If it were not, it should be expected that the empty object in (2.78) could also be interpreted with a bound reading. The empty object in (2.78) never receives a bound reading, but only an E-type reading. I will argue that since a c-command configuration is not necessary for the interpretation of (2.78), it is excluded.

Johnsen's (1988) second case of lack of alternation between an empty object and an overt pronoun involves NPs quantified with **hver**, 'every'.

- (2.97) **Han tok hver boks og åpnet (??den) med kniven.**
 he took every can and opened (??it) with knife.DEF
'He took every can and opened them with the knife.'
 (Norwegian, Johnsen 1988, p. 199, ex. 14a.)

In this example an empty object is completely acceptable, but an overt object is not. A plural pronoun does not improve the sentence.

- (2.98) **Han tok hver boks og åpnet (??dem) med kniven.**
 he took every can and opened (??them) with knife.DEF
'He took every can and opened them with the knife.'

Den Dikken (1991) provides examples that show that a first-conjunct object which is a **hver**-NP appears to bind a possessive second-conjunct object.

- (2.99) ***Jeg tok sjekken sin og gav hver arbeider.**
 I took check.DEF POSS and gave each worker
 Intended reading: *'I gave each worker his check.'*
 (Norwegian, den Dikken 1991, p. 16, ex. 53a.)

- (2.100) **?Jeg tok hver sjekk og gav dens eier.**
 I took each check and gave POSS owner
 Intended reading: *'I gave each check to its owner.'*
 (Norwegian, den Dikken 1991, p. 16, ex. 53b.)

Again in this case, an account admitting a last resort c-command relation between the two objects bears consideration. Both standard coordination and EOC appear to admit the last resort option.

- (2.101) **?Jeg tok hver sjekk og ga til eieren av den.**
 I took every check and gave to owner of it
'I took every check and gave (it) to its owner.'

- (2.102) **?Jeg tok hver sjekk og ga den til eieren av den.**
 I took every check and gave it to owner of it
'I took every check and gave (it) to its owner.'

Notice that the **hver**-quantifier case needs to be explained in English, as well, as attested by the acceptability of the glosses.

Johnsen's (1988) third case of lack of alternation between empty object and overt pronoun involves EOC from which topicalization has taken place.

- (2.103) **Han tok [en bok]_i fra hylla og la ec_i på bordet.**
 He took [a book]_i from the shelf and laid ec_i on the table
'He took a book from the shelf and put it on the table.'
 (Norwegian, Johnsen 1988, p. 197, ex. 15a.)
- (2.104) **Hylla_j tok han [en bok]_i fra ec_j og la [ec_i/*den_i] på bordet.**
 [The shelf]_j took he [a book]_i from and laid [ec_i/*it_i] on the table
'From the shelf he took a book and put it on the table.'
 (Norwegian, Johnsen 1988, p. 197, ex. 15b.)
- (2.105) **Bordet_j tok han [en bok]_i og la [??ec_i/*den_i] på ec_j**
 [The table]_j took he [a book]_i and laid [??ec_i/*it_i] on ec_j
*'He took a book from the shelf and put it **on the table**.'*
 (Norwegian, Johnsen 1988, p. 197, ex. 15c.)

If a constituent has been topicalized from one of the conjuncts of the EOC, it is no longer possible to associate an overt object pronoun with a non-topic. A speaker of EOC-Norwegian explained to me that (2.104) and (2.105) are not ungrammatical, but rather that it is difficult to get a reading under which the pronoun **den** refers to anything other than the topicalized NP.

The following example demonstrates that it is possible for a topicalized NP to be the antecedent of the empty object in the EOC.

- (2.106) **Tre brev skrev Jens og sendte til England.**
 three letter wrote Jens and sent to England
*'Jens wrote **three letters** and sent them to England.'*

The appropriate generalization seems to be that if an overt pronoun must be associated with a topic, if there is one. An empty object is not subject to this restriction. Rather, an empty object must always be associated with the direct object of the first-conjunct verb.

2.5 Preliminary structure for Norwegian EOC

At this point it is already possible to put forward a preliminary structure for Norwegian EOC. The fact that the empty object of the EOC receives an E-type reading

has important implications. First, if the empty object receives an E-type reading, it must be a pronoun and must be projected as such into the syntax in the same way as an overt pronoun. Second, a pronoun that receives an E-type reading is a pronoun with a quantifier antecedent that does not bind it. In the syntactic structure, the quantifier antecedent can only avoid binding the pronoun if it does not c-command the pronoun. The fact that the null object of EOC receives an E-type reading when it is associated with a quantified NP tells us that the object of the first-conjunct verb (henceforth V1-object) does not c-command the object of the second-conjunct verb (henceforth V2-object). Coordination is an obvious structure that correctly represents the lack of a c-command relationship between the first conjunct object and the empty object. An important question that needs to be answered is which level of constituents is coordinated in EOC. Recall that the conjuncts must match in tense/aspect, as shown in (2.15), and that the second conjunct cannot contain an auxiliary, as shown in (2.20), both repeated.

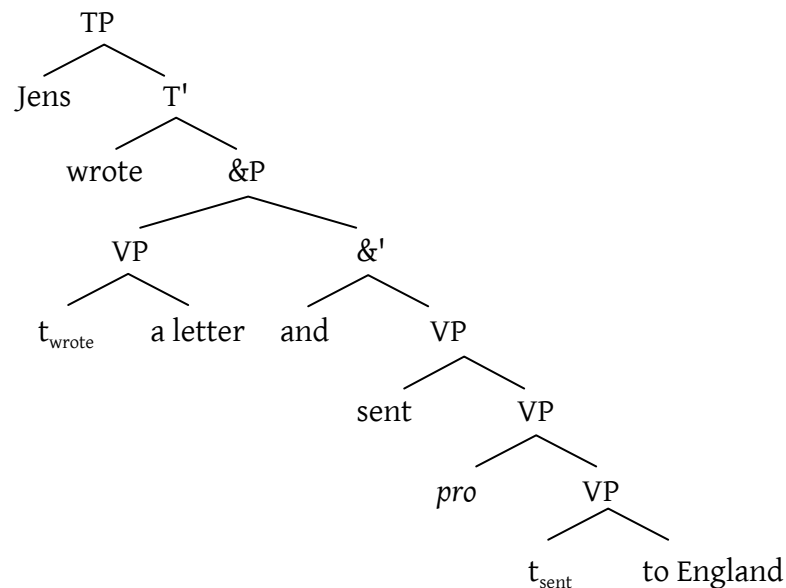
- (2.15) **Jens skrev et brev og sender *(det) til England.**
 he write.PAST a letter and send.PRES *(it) to England
'Jens wrote a letter and sends (it) now to England.'

- (2.20) **Jens har rettet et brev og har sendt *(det) til England.**
 He has correct.PAST a letter and has send.PART *(it) to England
'Jens has corrected a letter and has sent (it) to England.'

These examples suggest that the EOC involves a single TP and that coordination takes place at a lower level, which I will label VP and return to discuss in Chapter 4. The coordination structure in (2.107) is a preliminary proposal for a structure for Norwegian EOC.

(2.107) Appropriate structure for Norwegian EOC (preliminary)

- One representation of tense/aspect
- V1-object does not c-command empty object

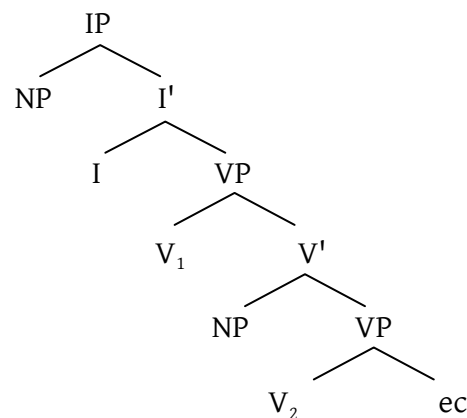


I adopt the Boolean Phrase structure of coordination, which analyzes a coordination as being a projection of the conjunction. The conjunction is the head, &. Such a structure was proposed by Munn (1987) and used by Kayne (1994) and Johannessen (1996). The conjunction selects for the second conjunct, and also contains a feature that requires the first conjunct to merge into its specifier.

The previous attempts to provide a proposal for the structure of the Norwegian EOC were undertaken by Johnsen (1988) and den Dikken (1991). Johnsen (1988) formulates his proposal in terms of VP-adjunction and den Dikken (1991) advances a more detailed proposal for EOC in which the second verb is a triadic verb that involves VP shells. I will discuss each of these proposals in turn, and demonstrate why they fail to cover the entire range of facts concerning the Norwegian EOC.

Johnsen (1988) proposes that the two conjuncts of the EOC are segments of the same VP. The EOC is thus a VP-adjunction structure, as illustrated in (2.108).

(2.108) Proposal for EOC structure (Johnsen 1988, adapted from p. 201, ex. 18)



When he puts forward this structure, Johnsen (1988) states that he is 'abstracting away from the coordinator' (p. 201). For this reason, the structure does not contain a position for the conjunction, **and**. Johnsen (1988) sketches his proposal only briefly and it is not clear what he would consider to be the appropriate structural position for the coordinator.

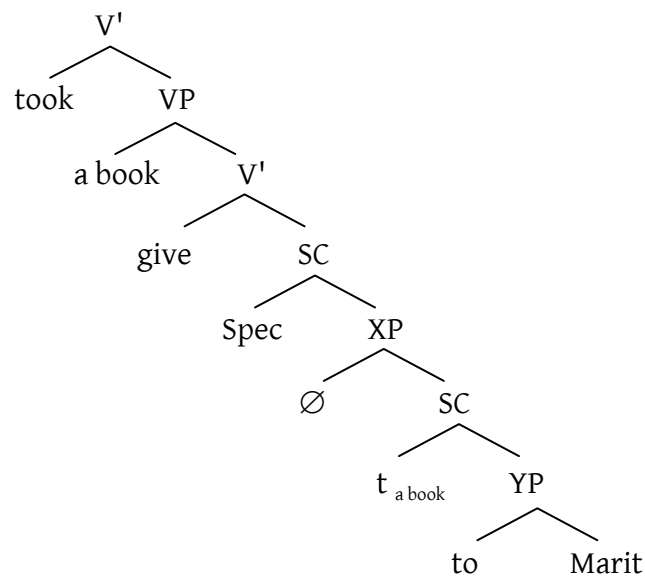
A more serious shortcoming of structure (2.108) is the c-command configuration. Under Johnsen's (1988) account, the object NP and the ec form an argument chain. Together V_1 and V_2 constitute a verb compound and jointly assign a θ -role to the chain (NP, ec). The mechanics of verb compounding and joint θ -role assignment are not relevant here, since my criticism of Johnsen's (1988) account involves the argument chain (NP, ec). In an argument chain, the first element c-commands the second. Johnsen's (1988) account can be deemed untenable on the grounds that the V_1 -object always c-commands the empty object, which would mean that it would never be possible for the empty object to receive an E-type reading.

Den Dikken's (1991) account is subject to similar criticism. Den Dikken (1991) analyzes Norwegian EOC examples like (2.109) in which V_2 is a triadic verb.

- (2.109) **Jens tok en bok og gav til Marit.**
 He take.PAST a book and give.PAST to Marit
'Jens took a book and gave it to Marit.'
 (Norwegian, den Dikken 1991, p. 23, ex. 77d.)

He proposes that the structure of this EOC consists of two VP shells. The upper shell contains the verb 'take' and the lower shell contains a prepositional dative. The structure Den Dikken (1991) proposes is illustrated in (2.110).

- (2.110) Proposal for EOC structure (den Dikken 1991)



Den Dikken's (1991) proposal is based on his theory of the structure of triadic verbs. The details of this theory do not enter into my criticism of his account of the Norwegian EOC, so I will make only the brief comment necessary for the reader to understand (2.110). Den Dikken's theory of triadic verbs holds that a prepositional dative consists of two embedded small clauses (SCs). XP is a projection whose head is either a verb particle or null. In this case, it is null, as indicated by \emptyset . YP is a projection whose head is a preposition.

The EOC construction is formed when a prepositional dative is embedded under a VP shell containing the verb 'take'. The object of the prepositional dative verb, 'a book',

moves to the specifier position of the upper VP, where it receives Case from the verb 'take' via Exceptional Case Marking. The aspect of this structure that is relevant for this discussion is not the Case marking of the object, but rather the fact that achieves its surface position by having undergone movement. Den Dikken's (1991) proposal maintains that the V1-object in the EOC originates as the V2-object and appears in its surface position because it moves there to receive Case.

Like Johnsen's (1988) structure, den Dikken's (1991) structure contains no indication of where the conjunction **and** is positioned. This lack is hardly an oversight, however. Den Dikken (1991) points out that there are serializing languages in which it is possible to insert a conjunction, citing the following examples from Krio.

(2.111) **i de fes di buk (ən) kam**
 he PROG fetch the book (and) come
 '*He is bringing the book with him.*'
 (Krio, den Dikken 1991, p. 5, ex. 19, from Williams 1971)

He observes that the presence or absence of a coordinator is not sufficient to distinguish serialization from coordination. Den Dikken's (1991) structure does not represent a position for **and** because it is designed to apply equally to the EOC in Norwegian and to the SVC in more traditional serializing languages. Den Dikken's (1991) structure is convincing as a structure for SVCs in other languages, but it fails to cover the facts of Norwegian EOC and Baule ESC.

Den Dikken (1991) holds that there is no empty object involved in the Norwegian Empty Object Construction. As we have seen above, this view must be rejected since the fact that the unexpressed V2-object receives an E-type reading when the V1-object is a quantified NP demonstrates that this unexpressed object is a null pronoun. Unexpressed objects cannot receive E-type readings unless they are pronouns. E-type pronouns are referential in that they refer to groups of discourse

entities.⁸ An unexpressed object that has an E-type reading is referential and for this reason can be nothing other than a pronoun.⁹ Furthermore, under den Dikken's (1991) proposal surface word order is derived by movement. The result is that the position of the V1-object c-commands the position of the V2-object in den Dikken's structure in (2.110). Under this c-command configuration, it would not be possible for the object of V2 to ever receive an E-type reading.¹⁰

In sum, due to the E-type readings received by empty objects in EOC-examples with a (appropriate) quantified V1-object, it is necessary to assume that a coordination structure such as the one in (2.107) underlies Norwegian EOC. In this respect, Johnsen's (1988) and den Dikken's (1991) proposals do not suffice to cover the facts. However, we do not want to discard these proposals entirely. The proposed EOC-structure in (2.107) shares with these authors the assumption that EOC contains only one representation of tense/aspect due to the fact that the conjuncts must match in tense/aspect and that the second conjunct cannot contain its own auxiliary. Additionally, there is evidence that it is necessary to assume that a last resort derivation is also available in which the V1-object moves to c-command the empty object. Recall that the V1-object can be negative indefinite in the EOC.

- (2.93) **Han skrev ingen brev og sendte til England.**
 Han write.PAST no letter and sent.PAST to England
'He didn't write any letters and send them to England.'

⁸ Recall that I am focusing the discussion on simple cases of E-type pronouns. In simple examples, the pronoun stands in relation to a quantified NP that is not c-commanded by another quantifier.

⁹ It should be kept in mind that the lack of an E-type reading does not necessarily indicate the lack of a pronoun.

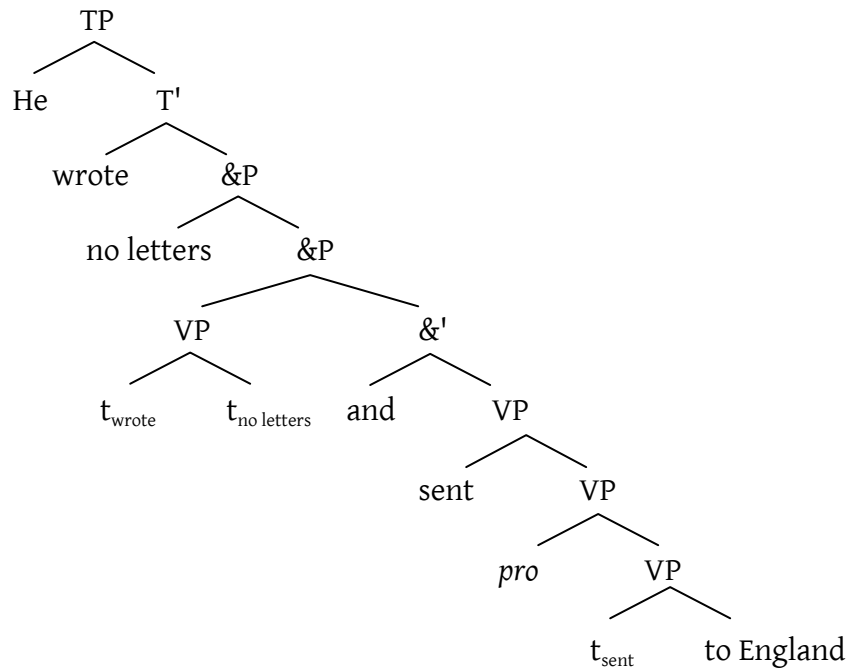
¹⁰ A possible alternative would be to maintain den Dikken's (1991) structure and to identify EOC as a case in which an E-type reading arises when an E-type pronoun is c-commanded by its quantifier antecedent. This alternative is unappealing, since it would mean that the Norwegian EOC is the only structure in which an E-type reading arises in a c-command configuration.

In this case, a structure with the c-command configuration of Johnsen's (1988) structure or den Dikken's (1991) structure is needed, since the negative indefinite binds and therefore must c-command the empty object. This structure must be assumed to be last resort in nature and is only used if (2.107) cannot be used. This assumption is necessary in order to account for the fact that the empty object of EOC does not have the possibility of receiving a bound reading, and must receive an E-type reading if it stands in a coupling relationship with a quantifier, unless that quantifier is a negative indefinite or **hver**. It is not possible to adopt Johnsen's (1988) or den Dikken's (1991) structure directly, since these structures derive the empty category by movement and do not assume that the empty object is a null pronoun. Since the last resort structure should be minimally different from the standard EOC structure, I assume that the empty object does not have movement source, but rather is always a null pronoun.

I would like to propose that if the EOC is not compatible with the standard configuration (2.107), last-resort movement of the V1-object out of its conjunct applies. The V1-object adjoins to &P from where it c-commands the empty V2-object in the second conjunct.

(2.112) Last resort configuration for Norwegian EOC (preliminary)

- One representation of tense/aspect
- V1-Object c-commands V2-Object



I assume that this movement also accounts for the acceptability of EOC in which the empty object stands in a coupling relationship with a **hver**-quantified NP.

(2.101) ?Jeg tok hver sjekk og ga til eieren av den.

I took every check and gave to owner of it
'I took every check and gave (it) to its owner.'

In this case, **hver sjekk**, 'every check', moves out of its conjunct to a position from which it can bind the empty object and the pronoun in the second conjunct. The structures presented in this section are preliminary structures and will be refined in Chapter 4.

2.6 Licensing null objects in Norwegian

An account of the Norwegian EOC, such as the one that I am proposing, which holds that the empty object is a null pronoun, faces the challenge of explaining why null objects should be permitted in EOC, but not otherwise in Norwegian.

- (2.2) ***Han sendte til England.**
 he send.PAST to England
 (Norwegian, Creider 1986, p. 11, ex. 48b.)

The lack of null objects in non-EOC sentences in Norwegian has been pointed out by Creider (1986) and has been used by den Dikken (1991) as an argument against a null pronoun account of EOC.

I will address this challenge by proposing an account of null objects in Norwegian that breaks licensing down into two conditions that must be satisfied separately, the Formal Licensing Condition and the Identification Condition. Such a bipartite licensing condition was proposed by Rizzi (1986) in his landmark treatment of Italian arbitrary object *pro*. I will argue that Norwegian is a null object language in that the Formal Licensing Condition is inherently satisfied, but that Norwegian does not generally permit null objects since the Identification Condition is satisfied only under special circumstances, in particular, when the null object occurs in the second conjunct of an EOC-coordination.

The original accounts of null pronouns correlate their distribution with the presence of agreement that is sufficiently rich (Chomsky 1982, Jaeggli 1982, Jaeggli and Safir 1989). Typical of the view that rich agreement is important is Huang's (1984) observation that object agreement licenses null objects in Pashto. In the past tense, verbs agree with their objects in Pashto. In this case, and only in this case, is it possible to use a null object.

- (2.113) **ma pro wə-xwar-a.**
 I *pro* PERF-eat-3sgfem
 'I ate it.'
 (Pashto, Huang 1984, p. 536, ex. 14b.)

Rizzi's (1986) motivation for proposing a bipartite licensing condition stems from the fact that the difference between Italian and English — i.e. Italian has (arbitrary) null objects, but English does not — cannot be explained by the presence or absence of object agreement, which both languages lack. Rizzi (1986) proposes that null pronouns must fulfill two licensing conditions, the Formal Licensing Condition, which restricts the context in which null pronouns can occur, and the Identification Condition, which requires the null pronoun to recover content. Satisfaction of the Formal Licensing Condition is not related to rich agreement, but rather to inherent properties of the language. In Italian, the parameter for formal licensing of object *pro* is 'on' and in English it is 'off'. Considerations of lack of object agreement do not need to enter the picture in order to distinguish English from Italian.¹¹ Satisfaction of the Identification Condition can be related to rich object agreement, as is the case in Pashto. Italian, however, chooses an alternate strategy and satisfies the Identification Condition by stipulating that null objects are assigned a third person singular arbitrary interpretation.

Parallel to Rizzi's (1986) account of null objects in Italian, I stipulate that Norwegian has an 'object drop on' setting for the null object parameter and for this reason null objects in Norwegian always satisfy Formal Licensing. Recall that the version of the

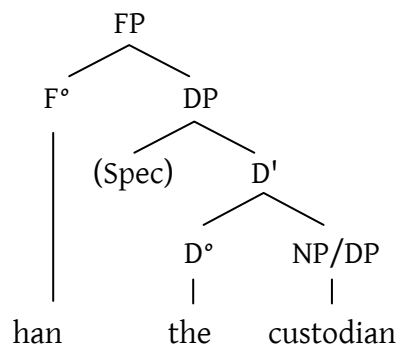
¹¹ My bipartite condition on null object licensing differs in an important respect from Rizzi's (1986) condition. Rizzi (1986) assumes that if *pro* fails to fulfill the Identification Condition, it is still licensed, but that it cannot be referential, since it has not recovered φ -features. Occurrences of *pro* that do not full Rizzi's Identification Condition can still be expletive *pro*. In my system, failure to fulfill the Identification Condition means that *pro* does not fulfill the necessary requirements and cannot occur. I do not attempt to account for the distribution of expletive *pro*.

Minimalist Program adopted here includes a transitivity head, Tr, proposed by Bowers (2002), which houses a probe containing φ -features and is able to check accusative Case. The probe in Tr can be used to implement the needed parameterization. In the case of Norwegian, I assume this probe is able to license null objects under Agree and in the case of languages without object drop, it is not. Under the account developed here, the Formal Licensing parameter with its 'object drop on' and 'object drop off' settings is stipulated and the burden of explaining the distribution of null objects in Norwegian is shifted on to the Identification Condition. Further investigation, however, might be successful in uncovering the aspect of Tr that is involved with Formal Licensing of null objects in Norwegian. Although I do not pursue such investigation, I would like to offer a suggestion that holds potential to shed light on the nature of the Formal Licensing parameter. I would like to suggest that cross-linguistically Tr occurs in two varieties, standard Tr, which can check Case of a DP, and a special Tr, that can check Case of an extended nominal projection, such as the extended nominal projection that has been proposed by Josefsson (1993) to account for pronominal appositions in Swedish.

- (2.114) **Känner du han den gamle vaktmästaren på institutionen.**
 know you he the old custodian-DEF at department-DEF
 'Do you know the old custodian at the department?'
 (Swedish, Josefsson 1993, p. 6, ex. 8b.)

Josefsson (1993) analyzes the pronoun and the noun as two heads belonging to the same extended projection.

(2.115) Structure of Pronominal Apposition (Josefsson 1993, p. 7, ex. 10)

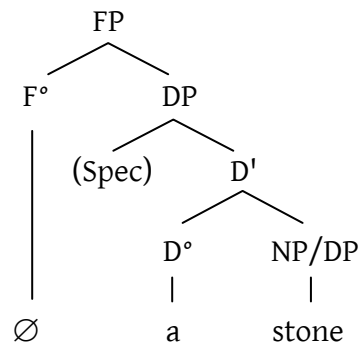


A similar structure has been proposed by den Besten (1996) for Associative DPs in Icelandic and Afrikaans. The determiner head, D°, doubles features also present in pronoun head, F°.

Norwegian has pronominal apposition constructions parallel to those in Swedish.

- (2.116) **Kjenner du han gammelvaktmesteren paa huset?**
 know you he old.custodian-DEF at house.DEF
'Do you know the old custodian at the house?'
 (Norwegian)

Initial inquiries turned up evidence consistent with the existence of a correlation between varieties of Norwegian admitting pronominal apposition and varieties of Norwegian admitting EOC. Much further research is needed to confirm the correlation, but if it exists it would provide proof that the ability to check Case of an extended nominal projection constitutes the 'object drop on' setting of the Formal Licensing parameter. I would like to argue that all DPs can occur with extended projections, and that it is possible that F° is filled with no phonetic content.

(2.117) *Null pronominal apposition*

The null pronoun in (2.117) fulfills Formal Licensing rather trivially by the fact that FP is allowed to be projected in EOC-Norwegian. FP can be projected, because EOC-Norwegian has the special Tr, which can check Case of FP. The null pronoun in (2.117) fulfills the Identification Condition because it is associated with a complement containing a nominal expression that it can use to recover its content.

Under such an account, the empty object in EOC would be a FP with no DP complement. F° would contain no phonetic content, but would fulfill Formal Licensing due to the presence of the appropriate Tr, making it possible for FP to check accusative Case. The null object would fulfill the Identification Condition because of the possibilities open to it due to its position and environment. In Chapter 4, I will introduce the Coupling Mechanism, a mechanism for Identification that formalizes the generalization that null pronouns can be licensed by virtue of appearing in second conjuncts of coordinations. If it indeed turns out to be the case that prepositional apposition varieties of Norwegian are exactly those varieties of Norwegian that admit EOC, then the presence of Tr that checks Case of extended projections is the parameter that explains why some varieties of Norwegian accept EOC and others do not.

2.7 Chapter summary

In this chapter, I have presented the Norwegian EOC and laid out the basic data that demonstrates its characteristics. I have shown that the empty object is projected into the syntax like an overt pronoun and have concluded that the empty object must be a null pronoun. I have supported this position by showing that the empty object receives an E-type reading when associated with a quantified NP. A syntactic structure in which the empty object is not c-commanded by the V1-object, as in (2.107), is required to account for the cases in which E-type readings arise. I have pointed out data that prove challenging for this position. First, the empty object is different from standard null pronouns in that it cannot be interpreted with extrasentential reference, but rather must have the same reference as the V1-object. Second, there are cases in which the empty object is bound by a quantified V1-object. These cases make it necessary to posit that a last-resort option is open to EOC in which the empty object is c-commanded by the V1-object. The chapter ended with a preliminary proposal for a structure for EOC and a discussion of the licensing of null objects in Norwegian. Null objects are required to fulfill a Formal Licensing Condition and an Identification Condition. I have proposed that the former is fulfilled inherently in Norwegian and the latter is fulfilled by a Coupling Mechanism, to be discussed in Chapter 4. The Coupling Mechanism will account for the reference constraints on empty objects and for the fact that they can only occur in second conjuncts.

CHAPTER THREE

THE EMPTY SUBJECT CONSTRUCTION: VERB SERIALIZATION IN BAULE

Baule makes extensive use of constructions that contain multiple finite verbs, but no overt conjunctions.

- (3.1) **B-'a sa nzue a nɔn.**
3ps-PERF draw water PERF drink
'They have drawn water and drunk it.' (Baule)
- (3.2) **ɔ to-li oflɛ di-li.**
3ss buy-COMPL papaya ate-COMPL
'S/he bought papaya and ate it.' (Baule)
- (3.3) **Be tra-li kangale-'n di-li.**
3ps catch-COMPL panther-DEF eat-COMPL
'They caught the panther and ate it.' (Baule)
- (3.4) **ɔ fa-li laliɛ kpɛ-li kpaun-'n.**
3ss take-COMPL knife cut-COMPL bread-DEF
'S/he used a knife to cut the bread.' (Baule)
- (3.5) **Talua mun be yi-li Konan fite-li kuman nun.**
girls DEF.PL 3ps move-COMPL Konan extract-COMPL hole in
'The girls pulled Konan out of the hole.' (Baule)
- (3.6) **Talua mun b-'a kan ndɛ-'n a kle mi.**
girl DEF.PL 3ps-PERF say word-DEF PERF show me
'The girls have told me the news.' (Baule)
- (3.7) **Aya fa-li fluwa-'n man-ni mi.**
Aya take-COMPL book-DEF give-COMPL 1so
'Aya gave me the book.' (Baule)

Cross-linguistically constructions similar to (3.1) - (3.7) are often investigated under the rubric *Serial Verb Construction* (SVC). A descriptive characterization of the constructions generally called SVCs in the literature can be found in Payne (1997).

In this chapter, Sections 3.1 and 3.2 provide a general introduction to Baule and a descriptive overview of examples like (3.1) - (3.7), comparing and contrasting their distribution and interpretation with examples of related constructions in Baule. Data from related languages is presented where relevant. Section 3.3 presents proof that unexpressed arguments in Baule ESC are always null pronouns. Section 3.4 builds on this insight and introduces preliminary structures for the Baule ESC. Finally, Section 3.5 provides a general account of the licensing of null pronouns (subjects and objects) in Baule. The Baule ESC displays striking similarities with the Norwegian EOC, the subject of Chapter 2. An account covering both constructions will be presented in Chapter 4.

3.1 Introduction

In this section, a brief introduction to Baule first supplies the necessary facts. The designation 'Serial Verb Construction' reveals itself to be inappropriate for (3.1) - (3.7) and '*Empty Subject Construction*' is adopted instead. Two related constructions are introduced.

3.1.1 *Brief introduction to Baule*

A few words about the typology of Baule are needed to supply context and to illustrate its relationship to Anyi and Akan, two other Kwa languages that provide valuable comparison. The following description of the family relations of Baule follows the classification in *Ethnologue* (SIL 2004). Baule is a Kwa language in the Niger-Congo family. Kwa splits into two main branches, Nyo and Left Bank. Following the Nyo branch down, we arrive at Tano; within Tano, Baule belongs to the Central group.

Central Tano bifurcates into Akan and Bia. The Akan-language branch includes Fante and Twi and is spoken in Ghana. The Akan linguistic literature is impressive in its scope and detail, and it is an indispensable resource for the study of Baule. Baule belongs to the Bia branch of Central Tano. In turn, Bia splits into a Northern and a Southern branch, and Baule belongs to the Northern branch. Anyi is another member of the Northern Branch, as are Chokosi and Sehwi. Chokosi and Sehwi are spoken in Ghana. Anyi is spoken in the Côte d'Ivoire and also in Ghana.

Baule is spoken in the savannah region in the center of Côte d'Ivoire roughly delineated by the Bandama River to the west and the Comoé River to the east. Baule itself is composed of a set of quite heterogeneous varieties. Timyan (1977) lists 25 and Ahoua (1996) estimates there are a total of 31. The data discussed here is from the Faafue variety, spoken in the area around Bouaké. Literature treating the syntax of Baule includes: Effimbra (1951), Timyan (1977), Carteron (1992), Creissels and Kouadio N'Guessan (1977), Kouadio N'Guessan (2000) and Bohoussou (1996, to appear).

Baule word order is SVO in main and dependent clauses. Pronouns encode person and number, but not gender features, and also express animacy. Traces of a noun class system are evident in noun morphology (Creissels and Kouadio N'Guessan 1977, p. 140). Baule is a tone language and phonological tone is marked in the following discussion where relevant. Tone is not generally marked in the standard orthography, adopted here. Tone differentiates lexical items and also tense/aspect/mode forms of verbs.

(3.8) *Baule tonal prefixes: affirmative*

perfect	low	ɔ-'à dí	'S/he has eaten it.'
completive	low	ò dì-lí	'S/he ate it.'
present	low	ò dí	'S/he eats it.'
intentional	high	ó dí	'S/he wants to eat it.'

Subject markers have no inherent tone, but bear the tone prescribed by the tense/aspect of the verbs, called 'tonal prefix' by Creissels and Kouadio N'Guessan (1977). The exception is the second person plural, **ámùn**, whose tone is invariant. The paradigm of subject markers is given in the following table.

(3.9) *Baule subject markers*

	singular	plural
first person	n	e
second person	a	ámùn
third person	ɔ	be

Aside from these subject markers, there are no other subject pronouns.¹² Negative forms differ from affirmative forms.

(3.10) *Baule tonal prefixes: negative*

negative perfect/completive	low	ɔ-'à dí mán	'S/he hasn't eaten it.'
negative present/intentional	high	ó dí mán	'S/he doesn't eat it.'

Creissels and Kouadio N'Guessan (1977) demonstrate that tonal prefixes are present even if the subject marker is not used. The following examples show the case in which the subject is a proper name.

(3.11) **Yàò `dí.** (present)

Yao eat

'Yao eats it.'

(Baule, adapted from Creissels and Kouadio N'Guessan 1977, p. 191)

(3.12) **Yàò 'dí.** (intentional)

Yao eat.INT

'Yao wants to eat it.'

(Baule, Creissels and Kouadio N'Guessan 1977, p. 191)

¹² Baule is different in this way from a language like Yoruba, in which forms from two series of pronominal elements, one full and one reduced, are used as subject pronouns (Pulleybank 1986).

The presence of the tonal prefix can be recognized in the difference between the tonal contours with which these sentences are realized. The final high tone in the intentional sentence, (3.12), is realized higher than the final high in the sentence in the present, (3.11). This effect is due to Baule's rule of high tone upsweep that affects sequences of high tones (cf. Quaireau 1981, Ahoua 1996). Two or more consecutive high tones are realized in a climbing manner, with the result that only the final high tone of an upsweep sequence attains what is phonetically the maximum pitch.

Subject markers in Baule are ambiguous between pronouns and agreement markers. If a clause contains no other expression of a subject than a subject marker, then the subject marker is a pronoun.¹³

- (3.13) **ɔ̌ kpan-ni.**
 3ss yell-COMPL
 'S/he yelled.' (Baule)

If a subject marker resumes a full NP subject, then it can either be a pronoun or an agreement marker. A subject marker is required to resume a nominal marked with the definite plural.

- (3.14) **Talua mun *(be) kpan-ni.**
 girl DEF.PL *(3ps) yell-COMPL
 'The girls yelled.' (Baule)

This example has two possible realizations, one in which the definite plural and the subject marker are pronounced distinctly and one in which the two forms fuse.

- (3.14)' **Talua mun be kpan-ni.**
 girl DEF.PL 3ps yell-COMPL
 'The girls yelled.' (Baule)

¹³ It is possible to argue that this example is a case of null subject co-occurring with an agreement marker. Then Baule would be a language without an overt subject pronoun, typologically possibly quite unprecedented.

- (3.14)" **Talua me kpan-ni.**
 girl DEF.PL.3ps yell-COMPL
 'The girls yelled.' (Baule)

I maintain, following Bohoussou (1996), that (3.14)' involves a subject NP resumed by a pronoun and is the Baule topicalization structure. On the other hand, (3.14)" involves a subject NP followed by a subject agreement marker (which has fused with the definite plural.)¹⁴ Within a discourse, the neutral variant (3.14)" cannot be substituted for the topicalized variant (3.14)'. This fact demonstrates that the two realizations have a different information structure, supporting the position that they have different syntactic structures, one involving a topic resumed by a pronoun and one involving an agreement marker.¹⁵

Baule object markers are summarized in (3.15).

(3.15) *Baule object markers*

	singular	plural
first person	mí	é
second person	wó	ámùn
third person	í	bé

This series is the only series of object markers in Baule. There are no other object pronouns. Object markers are used as direct object pronouns.

¹⁴ The fact that subject markers can resume quantified subjects provides support for the view that they should not always be analyzed as pronouns.

- (i) **Talua nsan ce *(be) kpan-ni.**
 girl three only *(3ps) yell-COMPL
 'Only three girls yelled.' (Baule)

Quantified NPs are known not to be easily interpretable as topics (c.f. for example Reinhart 1982). Yet the resumptive subject marker is natural (indeed, is required) in (i), indicating that this example cannot be a topicalization, which would involve a resumptive pronoun.

¹⁵ In particular, I assume structure (i) for topicalization and structure (ii) for subject+agreement marker.

- (i) [_{CP} **Talua mun** [_{TP} **be** [_{VP} *t*_{be} [_{V'} **kpanni**]]]]
 (ii) [_{TP} **Talua mun** [_{T'} **be** [_{VP} *t*_{Talua mun} [_{V'} **kpanni**]]]]

- (3.16) **N wun-ni i.**
 I see-COMPL 3so
*'I saw him/her/it.'*¹⁶ (Baule)

Not all object pronouns are expressed with object markers, however. Baule is a null object language and for certain verbs, such as **di**, 'eat', it is necessary (in certain cases) to drop the pronoun.

- (3.17) **Yao di (*i)**
 Yao eat
'Yao eats it.' (Baule)

This pronominal object of **di**, 'eat', is never overt in sentence-final position when it refers to a singular inanimate entity.

Mention of the clause-final high tone completes the overview of Baule syntax. The clause-final high tone is a high tone that is realized on the last syllable of the verb when the verb is clause final, as in (3.18).

- (3.18) **ɔ̃ wò-lí.**
 3ss go-COMPL
'S/he left.' (Baule)

When the verb is followed by a complement or an adjunct, the last syllable of the verb is realized with low tone, as in (3.19).

- (3.19) **ɔ̃ wò-lì Búakê.**
 3ss go-COMPL Bouaké
'S/he went to Bouaké.'
 (Baule, adapted from Creissels and Kouadio N'Guessan 1977, p. 393)

When the verb is followed by the negative marker, clause-final high tone is realized on the negative marker.

¹⁶ In this case, an object marker cannot double an overt NP.

- (i) **N wun-ni (*i) talua-'n (*i)**
 I see-COMPL (*3so) girl-DEF (*3so)
 Intended reading: *'I saw the girl.'* (Baule)

3.1.2 Differences between ESC and classical serialization

In their comprehensive description of Baule, Creissels and Kouadio N'Guessan (1977) argue that the term *série verbale*, 'verb series', can be validly used in Baule. The designation *série verbale* is also adopted in Carteron (1992). In his more recent study of serialization in Baule, Kouadio N'Guessan (2000) also chooses the term *série verbale*. I have used 'Serial Verb Construction' (SVC) myself in Larson (2002, 2003). Timyan (1977) alone avoids the term, choosing to call such constructions 'verbal groups'.

Timyan's (1977) initiative merits pursuit. Calling (3.1) - (3.7) examples of a 'Serial Verb Construction' is rather misleading, since it promotes an expectation that the interesting aspect of these examples is their verbs. In fact, the verbs of (3.1) - (3.7) display no particularly noteworthy behavior. Both the initial verb (V1) and the non-initial verb (V2) of these examples are clearly finite verbs, as witnessed by the fact that they both bear tense/aspect morphology. Moreover, the resemblance that these examples bear to other constructions that have been called SVCs in the literature can be demonstrated to be superficial.

Although Creissels and Kouadio N'Guessan (1977) choose to use the designation *série verbale*, they are careful to emphasize that in Baule such constructions are formally closer to the juxtaposition of two main clauses than SVCs are in other languages (p. 417). I am going to take their point of view a step further and argue that (3.1) - (3.7) are coordination of two main clauses effected without an overt conjunction. Such coordination is commonly known as covert coordination or parataxis.

The most striking evidence that the ESC is parataxis is the distribution of clause-final high tone in the ESC. In Baule, it is clear that V1 does not select V2 as a complement, since V1 bears clause-final high tone. This fact is pointed out by both

Carteron (1992, p. 43) and Creissels and Kouadio N'Guessan (1977, p. 422). In (3.20), the pattern is illustrated with an ESC involving two intransitive verbs.

- (3.20) **ɔ̀ kpà̀n-ní srò-lí.**
 3ss cry-COMPL respond-COMPL
'She shouted a reply.' (Baule)

If either V2, or the clause containing V2, were a complement of V1, the completive suffix of V1 would have low tone.

- (3.21) ***ɔ̀ kpà̀n-nì srò-lí.**
 3ss cry-COMPL respond-COMPL
'She shouted a reply.' (Baule)

Example (3.21) shows that this realization is not admitted. Because the ESC contains two clause final high tones, one on each verb, the simplest assumption is that the ESC consists of two coordinated clauses. ESC differs in this way from constructions in which a verb is followed by a nominalized verb radical.

- (3.22) **ɔ̀ sì sún.**
 3ss know cry
'S/he knows how to cry.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 429)

Here, **sì**, 'know', is required to bear a low tone because it is not clause final, but rather followed by a complement, the verbal noun **sún**. It is clear that **sún** is a verbal noun in (3.22) since, unlike V2 in the ESC, it cannot bear a marker for tense/aspect, negation or subject. The fact that V1 in the ESC has clause-final high tone indicates that the ESC cannot be analyzed as a mono-clausal structure. This makes ESC look very different from SVCs, for which accounts involving only a single clause have often been proposed in the literature.

The fact that both verbs in Baule ESC carry full inflection is consistent with the conclusion that two main clauses are involved. Note that in (3.1) - (3.7) each verb in the series bears a tense/aspect marker. Further support for the presence of two

clauses is provided by the fact that both verbs can be considered to project full argument arrays, including subject and complements. Each verb in the ESC represents its subject in the form of the tonal prefix. This fact was pointed out by Creissels and Kouadio N'Guessan (1977).

- (3.23) ò sú fà tánnì 'màn Kouàdió.
 3ss PROG take cloth give Kouadio
'He's giving cloth to Kouadio.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 423)

The presence of the tonal prefix provides an indication that V2 projects its own subject. It is the presence of this subject, to be discussed in detail later, that motivates the designation 'Empty Subject Construction.'

Baule uses null objects in simple sentences and the most straightforward explanation for unexpressed objects in ESC is that they are also null objects. For example, the verb **di**, 'eat', does not express a direct object in (3.3) (repeated).

- (3.3) Be tra-li kangale-'n di-li.
 3ps catch-COMPL panther-DEF eat-COMPL
'They caught the panther and ate it.' (Baule)

This fact can be related to the requirement that **di**, 'eat', drop its object in a non-coordinate sentence.

- (3.17) Yao di (*i)
 Yao eat
'Yao eats it.' (Baule)

If an Object Drop verb like **di**, 'eat', or **nɔn**, 'drink', is not sentence final, an overt pronoun occurs, as illustrated by the following alternation.

- (3.24) Aya to-li nzue nɔn-ni (*i)
 Aya buy-COMPL water drink-COMPL (*3so)
'Aya bought water and drank (it).' (Baule)

- (3.25) **Aya to-li nzue nən-ni *(i) ndɛndɛ.**
 Aya buy-COMPL water drink-COMPL *(3so) quickly
 'Aya bought water and drank it quickly.' (Baule)

Similarly, if a verb that does not permit object drop, such as **yrɛ**, 'burn', is used, it is required to express its object overtly in ESC.¹⁷

- (3.26) **ɔ to-li lomi yrɛ-li *(i)**
 3ss buy-COMPL orange burn-COMPL *(3so)
 'S/he bought an orange and burned it.' (Baule)

Section 3.5 discusses in detail both standard null objects and null objects in ESC and proposes an account of their licensing. The pair (3.3) and (3.17) represents the most transparent case and provides initial motivation for the position that verbs in Baule ESC project all arguments in their argument arrays into the syntax as pronouns.

¹⁷ Baule differs from Anyi, as documented by van Leynseele (1975), with respect to the possibility of overt objects in serialization constructions. In Anyi, if an overt object of V2 is co-referent with an object of V1, it is necessary to express the subject of V2 overtly as well.

- (i) **ɔ-fa batrã~, o-bia i, ɔ-kpɔkpa i.**
 3ss-take.HAB child 3ss-wash.HAB 3so 3ss-anoint.HAB 3so
 'S/he takes the child, washes it, and anoints it.'
 (Anyi, van Leynseele 1975, p. 192, ex. 8)

Example (ii) shows that Baule requires the subject to be expressed overtly only once, at the beginning of the sentence.

- (ii) **ɔ fa ba-'n wunzin i kpɛkpɛ i.**
 3ss take child-DEF wash 3so anoint 3so
 'S/he takes the child, washes it and anoints it.'
 (Baule)

Akan has multi-verb constructions in which the complement of V1 is overtly resumed following V2. Like in Baule, the subject is required to be expressed only once at the beginning of the sentence.

- (iii) **Kofi bɔɔ Ama kuu *(no)**
 Kofi hit.COMPL Ama kill.COMPL *(her)
 'Kofi hit Ama and killed her.'
 (Akan, Saah 1992, p. 235 ex. 36)

Baule is typologically more closely related to Anyi than to Akan, but it turns out that with respect to requirements on subject expression, Baule more closely resembles Akan than it resembles Anyi.

Baule appears to differ in this way from classical serializing languages. In Yoruba, for instance, an object that is unexpressed in a SVC must appear overtly in a coordination.

- (3.27) **Bólá sè ẹran tà.**
 Bola cook meat sell
'Bola cooked some meat and sold it.'
 (Yoruba, Baker 1989, p. 529 ex. 27a. from Lord 1974)

- (3.28) **Bólá sè ẹran, ó sì tà á.**
 Bola cook meat he and sell it.
'Bola cooked some meat and (then) sold it.'
 (Yoruba, Baker 1989, p. 529 ex. 27b. from Lord 1974)

In Baule, the object pronoun of V2 does not resurface when an overt conjunction is inserted.

- (3.2) **ɔ to-li ofɛ di-li.**
 3ss buy-COMPL papaya ate-COMPL
'S/he bought papaya and ate it.' (Baule)
- (3.29) **ɔ to-li ofɛ kpekun ɔ di-li (*i).**
 3ss buy-COMPL papaya and 3ss ate-COMPL (*3so)
'S/he bought papaya and ate it.' (Baule)

The Yoruba alternation is characteristic of 'object sharing'. The coordination construction requires two overt objects, but in the SVC an object can be shared, apparently simultaneously satisfying the requirements of both verbs. Object sharing has been identified in the literature as a necessary component of verb serialization (Baker 1989, Collins 1997).

In light of the evidence that Baule verb projects its argument array in the same way in a simple sentence and in ESC, it is not appropriate to use the terms 'object sharing' or 'argument sharing' for Baule. These terms should be reserved for classical serialization, where there is clearly a syntactic difference between arguments of a verb in a simple sentence and arguments of the same verb in a SVC.

In cases in which an argument of V2 must be interpreted as referring to the same entity as an argument V1 I will speak of *referential coupling* of arguments. A further characteristic of referential coupling is that a coupled argument only has the one possibility of reference open to it, and has no alternate interpretations under which it is assigned extrasentential reference.

In Baule, coupling of objects occurs frequently in ESC, but is not a necessary characteristic of the construction.¹⁸ Some Baule sentences with multiple finite verbs and a single overt subject do not otherwise leave arguments unexpressed.

- (3.30) ɔ si-li alie -'n sɔkɔ-li tro-'n.
 3ss pound-COMPL food-DEF prepare-COMPL sauce-DEF
 'S/he pounded the futu and prepared the sauce.' (Baule)

- (3.31) ɔ yi-li gbogbo-'n i ase fa-li bakan-'n.
 3ss move-COMPL basket-DEF 3so earth take-COMPL child-DEF
 'She dropped the basket and picked up the child.' (Baule)

Additionally, ESC can involve two intransitive verbs, as in (3.20) (repeated).

- (3.20) ɔ kpan-ni sro-li.
 3ss cry-COMPL respond-COMPL
 'She shouted a reply.' (Baule)

These examples involve no referential coupling between the objects of the verbs.

In the serialization literature, the possibility of *wh*-movement of verb complements has been used to diagnose the difference between true SVCs and other structures.

Baker (1989) states that if a NP-argument of a verb in a verb series can be extracted

¹⁸ Saah (1992) makes a similar point in his discussion of Akan SVCs. He points out that examples like the Akan sentence (iii) in fn. 16 cannot be considered SVCs under Baker's (1989) account, which maintains that object sharing is a necessary characteristic of SVCs.

by *wh*-movement, the verb series is not coordination. This test is not conclusive in Baule, since Baule does not have *wh*-movement, or any sort of A'-movement.¹⁹

In the literature SVCs have been analyzed in which it appears that V1 is in some way defective as a verb, particularly in examples involving V1 **take**. In similar Baule examples, such as (3.7), it can be demonstrated that *fa*, 'take', is a normal verb and is not defective.

- (3.7) **Aya fa-li fluwa-'n man-ni mi.**
 Aya take-COMPL book-DEF give-COMPL 1so
 'Aya gave me the book.' (Baule)

Because **fa** can occur in a simple (non-ESC) sentences and can bear full tense/aspect morphology, it can be concluded that it is a full-fledged verb in Baule.

- (3.32) **Aya fa-li fluwa-'n.**
 Aya take-COMPL book-DEF
 'Aya picked up the book.'
 (Baule)

¹⁹ Saah (1988, 1994) presents extensive evidence that there is no *wh*-movement in Akan and argumentation of this position would run exactly parallel for Baule. Apparent cases of A'-movement in Baule are actually cases of pronominal resumption obscured by the fact that Baule makes extensive use of null pronouns, which will be discussed in detail later in the chapter.

- (i) **Tanni ye n to-li pro ɔ.**
 cloth FOC 1ss buy-COMPL PART
 'It's cloth that I bought.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 208)

Creissels and Kouadio N'Guessan (1977) point out that in some cases a resumptive pronoun is required in-situ in a focus construction.

- (ii) **Kouadio ye Kofi su bo i ɔ.**
 Kouadio FOC Kofi PROG beat 3so PART
 'It's Kouadio that Kofi is beating.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 208)

These cases are exactly those in which animates, plurals or objects are focused, the types of objects that cannot be dropped in Baule. This fact supports the conclusion that (i) also involves pronominal resumption.

Akan is an example of a language in which the verb *take* used as V1 is defective. In example (3.33), the verb **de**, 'take', is V1 in a SVC.

- (3.33) **Kofi de ankaa no ba-e.**
 Kofi take orange DEF come-COMPL
 'Kofi brought the orange.'
 (Akan, Osam 1994, p. 230, ex. 41a.)

In Akan, the verb **de**, 'take', cannot be used in a simple sentence, nor can it be inflected with tense/aspect morphology.

- (3.34) ***Kofi de ankaa no.**
 Kofi take orange DEF
 Intended reading: 'Kofi took the orange.'
 (Akan, Osam 1994, p. 230, ex. 41b.)

- (3.35) ***Kofi de-e ankaa no ba-e.**
 Kofi take-COMPL orange DEF come-COMPL
 Intended reading: 'Kofi brought the orange.'
 (Akan, Osam 1994, p. 231, ex. 44a.)

Baule also has a verb **de** meaning 'take', which can be used as an alternative to **fa** in the ESC. Unlike in Akan, **de** is a full-fledged verb in Baule, as demonstrated by the following example.

- (3.36) **Kofi de-li biki.**
 Kofi take-COMPL biki
 'Kofi took the pen.'
 (Baule)

The fact that **de**, 'take' can be used alone in a simple sentence and can bear aspect morphology demonstrates that it is a full-fledged verb.

In sum, Baule ESC involves two clauses. Each verb in the ESC is a genuine verb and can be shown to project a complete argument array, just as it would in a simple sentence. Referential coupling of objects of V2 with objects of V1 is not an essential characteristic of Baule ESC. These facts suggest that the appropriate starting

assumption is that Baule ESC is not related to classical serialization, but is rather covert coordination, or parataxis.

3.1.3 *Constructions related to the ESC*

A complete picture must include the discussion of two other Baule constructions containing multiple finite verbs and therefore similar to the ESC. These two constructions are the *Resumed Subject Construction* (RSC) and *standard coordination*, which I also call *overt coordination*.

3.1.3.1 *Resumed Subject Construction (RSC)*

In each of the examples of ESC in (3.1) - (3.7), the subject of V2 can optionally be expressed with a subject marker.

- (3.37) cf. (3.1) **B-'a sa nzue (b-'a nɔn.**
 3ps-PERF draw water (3ps)-PERF drink
 'They have drawn water and drunk it.' (Baule)
- (3.38) cf. (3.2) **ɔ to oflɛ (ɔ) di-li.**
 3ss buy papaya (3ss) ate-COMPL
 'S/he bought papaya and ate it.' (Baule)
- (3.39) cf. (3.3) **Be tra-li kangale-'n (be) di-li.**
 3ps catch-COMPL panther-DEF (3ps) eat-COMPL
 'They caught the panther and ate it.' (Baule)
- (3.40) cf. (3.4) **ɔ fa-li laliɛ (ɔ) kpɛ-li kpaun-'n.**
 3ss take-COMPL knife (3ss) cut-COMPL bread-DEF
 'S/he used a knife to cut the bread.' (Baule)
- (3.41) cf. (3.5) **Talua mun be yi-li Konan**
 girls DEF-PL 3ps move-COMPL Konan
 (be) fite-li kuman nun.
 (3ps) extract-COMPL hole in
 'The girls pulled Konan out of the hole.' (Baule)

- (3.42) cf. (3.6) **Talua mun b-'a kan nde-'n (b-')a kle mi.**
 girl DEF.PL 3ps-PERF say word-DEF (3ps)-PERF show me
'The girls have told me the news.' (Baule)
- (3.43) cf. (3.7) **Aya fa-li fluwa-'n (ə) man-ni mi.**
 Aya take-COMPL book-DEF (3ss) give-COMPL 1so
'Aya gave me the book.' (Baule)

Additionally, ESC examples not involving unexpressed arguments permit the subject of V2 to be expressed with a subject marker.

- (3.44) cf. (3.26) **ɔ to-li lomi (ə) yre-li *(i).**
 3ss buy-COMPL orange (3ss) burn-COMPL *(3so)
'S/he bought an orange and burned it.' (Baule)
- (3.45) cf. (3.30) **ɔ si-li alie-'n (ə) səkə-li tro-'n.**
 3ss pound-COMPL food-DEF (3ss) prepare-COMPL sauce-DEF
'S/he pounded the futu and prepared the sauce.' (Baule)
- (3.46) cf. (3.31) **ɔ yi-li gbogbo-'n i ase**
 3ss move-COMPL basket-DEF 3so earth
(ə) fa-li bakan-'n.
 (3ss) take-COMPL child-DEF
'She dropped the basket and picked up the child.' (Baule)

The pattern demonstrated by these examples is quite general. In Baule, every ESC example has a corresponding Resumed Subject Construction (RSC) example. In the RSC, the subject of both V1 and V2 is overtly marked. The subject of V2 is a subject marker agreeing in person and number with the subject of V1.

The Resumed Subject Construction is obviously closely related to the Empty Subject Construction. I treat it as a distinct phenomenon due to the interpretational differences between the two, to be discussed in Section 3.5.3.

3.1.3.2 Standard (overt) coordination

As mentioned above, Creissels and Kouadio N'Guessan (1977) remark that constructions containing multiple finite verbs in Baule are closely related to the

juxtaposition of two sentences. It is curious that, after having recorded this particular insight, Creissels and Kouadio N'Guessan (1977) decide to adopt the designation *série verbale*. Their decision is well founded, however. Creissels and Kouadio N'Guessan (1977) identify a difference between juxtaposition of clauses and coordination with an overt conjunction that they feel is significant enough to justify the existence of a class of *séries verbales*. They point out that in coordination in Baule it is never possible to let the subject of a non-initial verb go unexpressed.

- (3.47) ɔ to-li ofɛ kpekun *(ɔ) di-li.
 3ss buy-COMPL papaya and *(3ss) ate-COMPL
 'S/he bought papaya and ate it.'

In the words of Creissels and Kouadio N'Guessan (1977), "C'est d'ailleurs cette possibilité de ne pas avoir du tout de sujet exprimé devant le deuxième terme qui distingue formellement en baoulé la série verbale de la juxtaposition de deux propositions" (p. 421) ('The possibility of not expressing a subject in front of the second component is the factor that formally distinguishes the verb series from the juxtaposition of two propositions in Baule.') Kouadio N'Guessan's (2000) more recent study of serialization in Baule reiterates this view.

Baule has two conjunctions that are translated with 'and': **kpekun**, in (3.47), and **ye**, shown here.²⁰

- (3.48) ɔ to-li ofɛ ye *(ɔ) di-li.
 3ss buy-COMPL papaya and *(3ss) ate-COMPL
 'S/he bought papaya and ate it.' (Baule)

I call (3.47) and (3.48) *standard coordination* or *overt coordination*. I use *overt coordination* in cases in which it is important to make a distinction with covert coordination, i.e.

²⁰ Standard coordination in Baule exhibits more subtleties (and more dialectal variation) than discussed here. For a more detailed overview of coordinators in Baule see Bohoussou (to appear).

coordination effected with a null conjunction, otherwise known as parataxis. The designation 'Empty Subject Construction' reveals itself to be particularly appropriate, since this empty subject is critical in differentiating the ESC examples (3.1) - (3.7) from standard coordination.

The ESC in Baule will turn out to be tightly interrelated with the RSC and with standard coordination. Consider the ESC/RSC in (3.38) and the coordination in (3.47).

(3.38) cf. (3.2) ɔ to oflɛ (ɔ) di-li (*i).
 3ss buy papaya (3ss) ate-COMPL (*3so)
 'S/he bought papaya and ate it.' (Baule)

(3.47) ɔ to-li oflɛ kpekun *(ɔ) di-li (*i).
 3ss buy-COMPL papaya and *(3ss) ate-COMPL (*3so)
 'S/he bought papaya and ate it.' (Baule)

The ESC admits unexpressed non-initial subjects, which do not occur in the RSC or in coordination. All three constructions, ESC, RSC and coordination, admit (and whenever they admit, also require) unexpressed objects.

3.2 Characteristics of the Empty Subject Construction

In this section, Baule data that demonstrate the patterns of characteristics and constraints associated with the ESC are reviewed. The characteristics of the ESC are surprisingly parallel to those exhibited by the Norwegian EOC construction, described in Chapter 2.

3.2.1 Same-subject constraint

The two verbs of the Baule ESC are understood to have the same subject. In (3.1) (repeated), the same group of people who bought the water also drank the water.

- (3.1) **B-'a sa nzue a nɔn.**
 3ps-PERF draw water PERF drink
'They have drawn water and drunk it.' (Baule)

Likewise, in (3.7) (repeated) neither taking nor giving can be done by anyone other than Aya.

- (3.7) **Aya fa-li fluwa-'n man-ni mi.**
 Aya take-COMPL book-DEF give-COMPL 1so
'Aya gave me the book.' (Baule)

Certain RSC examples demonstrate a same-subject constraint as well, in particular the RSC parallel to Benefactive ESC (3.7).

- (3.43) **Aya fa-li fluwa-'n ɔ man-ni mi.**
 Aya take-COMPL book-DEF 3ss give-COMPL 1so
'Aya gave me the book.' (Baule)

The subject of the second verb necessarily refers to Aya.

- (3.49) ***Aya fa-li fluwa-'n Akisi man-ni mi.**
 Aya take-COMPL book-DEF Akisi give-COMPL 1so
 Intended reading: *'Aya picked up the book and Akisi gave it to me.'*

Respect of the same-subject constraint is a similarity between ESC and RSC. In Chapter 4, I will return to the question of why the contrast between (3.43) and (3.49) does not hold of all RSC.

3.2.2 *Tense/Aspect matching*

A hallmark of the Baule ESC is that each verb in the series bears its own tense/aspect/mode (TAM) marker.

- (3.6) **Talua mun b-'a kan ndɛ-'n a kle mi.**
 girl DEF.PL 3ps-PERF say word-DEF PERF show me
'The girls have told me the news.' (Baule)

It is not possible to mark TAM on one verb in the ESC, but not on the other.²¹

- (3.50) ***Talua mun b-'a kan ndɛ-'n kle mi.**
 girl DEF.PL 3ps-PERF say word-DEF show me
'The girls have told me the news.'

- (3.51) ***Talua mun be kan ndɛ-'n a kle mi.**
 girl DEF.PL 3ps say word-DEF PERF show me
'The girls have told me the news.'

TAM is also necessarily marked on both verbs of ESC examples that do not involve referential coupling of objects.

- (3.52) ***ɔ-'a yi gbogbo i ase fa bakan-'n.**
 3ss-PERF move basket 3so earth take child-DEF
 Intended reading: *'She has dropped the basket and picked up the child.'*

²¹ Completive is not always represented by the suffix *-li*, but can also be marked by vowel lengthening (Creissels and Kouadio 1977, p. 378). All ESC examples have the possibility of suppressing the *-li* suffix on either the first or the second verb, or on both verbs. Creissels and Kouadio N'Guessan (1977) document the fact that in Baule the completive can be realized in a reduced form that involves only a lengthening of the vowel of the radical. They record the following four possibilities for the RSC.

- (i) **ɔ fa-li tanni ɔ man-ni Kouadio.**
 3ss take-COMPL cloth 3ss give-COMPL Kouadio
'S/he gave cloth to Kouadio.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 419)
- (ii) **ɔ fa-a tanni ɔ man-ni Kouadio.**
 3ss take-COMPL cloth 3ss give-COMPL Kouadio
'S/he gave cloth to Kouadio.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 419)
- (iii) **ɔ fa-li tanni ɔ man-an Kouadio.**
 3ss take-COMPL cloth 3ss give-COMPL Kouadio
'S/he gave cloth to Kouadio.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 419)
- (iv) **ɔ fa-a tanni ɔ man-an Kouadio.**
 3ss take-COMPL cloth 3ss give-COMPL Kouadio
'S/he gave cloth to Kouadio.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 419)

Oversight of the reduced form of the completive led to my previous claim (Larson 2002, 2003) that TAM must only be marked on one verb in Baule.

- (3.53) *ɔ yi gbogbo i ase a fa bakan-'n.
 3ss move basket 3so earth PERF take child-DEF
 Intended reading: 'She has dropped the basket and picked up the child.'

Marking of TAM on both verbs is also a characteristic of Akan SVCs, whose TAM matching constraint have been discussed by Schachter (1974), Dolphyne (1987), Baker (1989) and Osam (1994). In (3.103) (repeated) each verb can be seen to bear its own marker of tense/aspect.

- (3.103) Akosua yɛ-ɛ asɔr ma-a Yaw.
 Akosua do-COMPL prayer give-COMPL Yaw
 'Akosua prayed for Yaw.'
 (Akan, Osam 1994, p. 194, ex. 1b.)

In the Akan literature, it has often been claimed that Akan prohibits TAM-mismatch between the verbs of the SVC. Both Schachter (1974) and Baker (1989) are proponents of this position. Dolphyne (1987) undertakes a comprehensive investigation of the possibilities of TAM-mismatch in SVCs in Akan, and arrives at the conclusion that the TAM-mismatch prohibition in Akan is not an absolute constraint. Osam (1994) embraces this conclusion. He identifies two combinations of mismatched aspect possible in Akan SVCs, *V1 perfect + V2 progressive* and *V1 continuative + V2 progressive*.

- (3.54) *V1 perfect + V2 progressive*
 O-e-yi bi re-dzi.
 3ss-PERF-take some PROG-eat
 'S/he has taken some and is eating it.'
 (Akan, Osam 1994, p. 211, ex. 21a)
- (3.55) *V1 continuative + V2 progressive*
 O-gyina ho re-hwɛ hɛn.
 3ss stand.CONT there PROG-look us
 'S/he is standing there looking at us.'
 (Akan, Osam 1994, p. 211 ex. 22b.)

In Baule, these combinations are not acceptable, but other combinations of TAM-mismatch are. Creissels and Kouadio N'Guessan's (1977) position is that TAM-

mismatch is generally prohibited in Baule, but that there are two apparent exceptions, *V1 progressive + V2 intentional* and *V1 future + V2 intentional*. They illustrate these mismatches with examples that are RSC examples.

- (3.56) *V1 progressive + V2 intentional*
 ò sú fà tánnì ó mán Kòuadió.
 3ss PROG take cloth 3ss give-INT Kouadio
 'He is giving the cloth to Kouadio.'
 (Baule, Creissels and Kouadio 1977, p. 420)

- (3.57) *V1 future + V2 intentional*
 ó wá fà tánnì ó mán Kòuadió.
 3ss FUT take cloth 3ss give-INT Kouadio
 'He is giving the cloth to Kouadio.'
 (Baule, Creissels and Kouadio 1977, p. 421)

These mismatch combinations are also acceptable in the ESC. If we put aside examples involving Benefactive ESC/RSC, such as (3.56) and (3.57) and consider other ESC/RSC examples, we find that TAM-mismatch constraints apply to the ESC, but do not apply to the RSC or to standard coordination.²² The following examples

²² There are other TAM-mismatches, however, that are always excluded for all three constructions.

- (i) *ESC: V1 perfect + V2 completive*
 *B'a tra kpɛma di-li.
 3ps-PERF catch agouti eat-COMPL
 Intended reading: 'They have caught an agouti and they ate it.'

Example (ii) and (iii) show that combinations of *V1 perfect + V2 completive* also do not yield acceptable RSC or standard coordination examples.

- (ii) *RSC: V1 perfect + V2 completive*
 *B'a tra kpɛma be di-li.
 3ps-PERF catch agouti 3ps eat-COMPL
 Intended reading: 'They have caught an agouti and they ate it.'
- (iii) *Standard Coordination: V1 perfect + V2 completive*
 *B'a tra kpɛma kpɛkun be di-li.
 3ps-PERF catch agouti and 3ps eat-COMPL
 Intended reading: 'They have caught an agouti and they ate it.'

The fact the English glosses of these examples also sound strange suggests that we are not dealing here with a prohibition of TAM-mismatch, but rather with some sort of discourse restriction. The reverse order, namely *V1 completive + V2 perfect*, is acceptable in coordinations and the corresponding English sentence is also improved.

illustrate such a case. Example (3.58) demonstrates that the combination of **V1** *completive* + **V2** *future* is not admitted in the ESC.

(3.58) **ESC: V1 completive + V2 future**

*Be tra-li kpɛma wa di.

3ps catch-COMPL agouti FUT eat

Intended reading: 'They caught an agouti and they will eat it.'

Examples (3.59) and (3.60) show that this combination is acceptable in the RSC or in standard overt coordination.

(3.59) **RSC: V1 completive + V2 future**

Be tra-li kpɛma be wa di.

3ps catch-COMPL agouti 3ps FUT eat

'They caught an agouti and they will eat it.'

(3.60) **Standard Coordination: V1 completive + V2 future**

Be tra-li kpɛma kpɛkun be wa di.

3ps catch-COMPL agouti and 3ps FUT eat

'They have caught an agouti and they ate it.'

In Chapter 4, I will return to consideration of why Benefactive ESC/RSC examples pattern differently than other ESC/RSC examples. The conclusions that we can draw from the data in this subsection are, first, that TAM-matching in the ESC is not a homogeneous phenomenon and second, that TAM-matching is not an absolute constraint in the Baule ESC, but admits limited exceptions.

3.2.3 Polarity matching

In Baule, the two verbs of the ESC are required to match in polarity. If one verb in a Baule ESC is negated, the other one must be as well. Creissels and Kouadio N'Guessan

(iv) **Standard Coordination: V1 completive + V2 perfect**

Be tra-li kpɛma kpɛkun b-'a di.

3ps catch-COMPL agouti and 3ps-PERF

'They caught an agouti and have eaten it.'

The English gloss improves in parallel.

(1977) provide the following as an example of negation being marked on both verbs of a serialization.²³

- (3.61) ɔ fa-man agba man-man Yao.
 3ss take-NEG cassava give-NEG Yao
'He doesn't give any cassava to Yao.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 257)

In the following discussion, the ESC in (3.62) is used to demonstrate polarity matching restrictions.

- (3.62) Kε Akisi wunze-'n, ɔ kɛn ngate di.
 When Akisi be.pregnant-DEF 3ss grill peanuts eat
'When Akisi is pregnant she roasts peanuts and eats them.' (Baule)

On the basis of (3.62) it is easy to create pragmatically plausible examples involving negations of the actions expressed by the verbs. The following example shows that both verbs can be negated.

- (3.63) Kε Akisi wunze-'n, ɔ kɛn man ngate di man.
 When Akisi be.pregnant-DEF 3ss grill NEG peanuts eat NEG
'When Akisi is pregnant she doesn't roast peanuts and doesn't eat them.'

If Akisi earns money selling roasted peanuts, it is easy to imagine that when she is pregnant she continues roasting them in order to sell, but does not eat them herself. This state of affairs cannot be expressed by an ESC, as shown in (3.64)

- (3.64) *Kε Akisi wunze-'n ɔ kɛn ngate di man.
 When Akisi be.pregnant-DEF 3ss grill peanuts eat NEG
 Intended reading: *'When Akisi is pregnant she roasts peanuts and doesn't eat them.'*

It is necessary to use a coordination to express the fact that Akisi roasts the peanuts, but does not eat them.

²³ Creissels and Kouadio N'Guessan (1977) note that in Baule negation on V2 can be highly reduced.

- (3.65) **Kε Akisi wunze-'n ɔ kɛɛn ngate kpekun ɔ di man.**
 When Akisi be.pregnant-DEF 3ss grill peanuts and 3ss eat NEG
'When Akisi is pregnant she roasts peanuts and doesn't eat them.'

Another easily imaginable state of affairs is that Akisi doesn't roast peanuts when she is pregnant, rather she eats them raw. Again it is not possible to use an ESC in this case.

- (3.66) ***Kε Akisi wunze-'n , ɔ kɛɛn man ngate di.**
 When Akisi be.pregnant-DEF 3ss grill NEG peanuts eat
 Intended reading: *'When Akisi is pregnant she doesn't roast peanuts and she eats them.'*

The following coordination is, however, appropriate for this context.

- (3.67) **Kε Akisi wunze-'n , ɔ kɛɛn man ngate nan wa di.**
 When Akisi be.pregnant-DEF 3ss grill NEG peanuts in.order.to FUT eat
'When Akisi is pregnant she doesn't roast peanuts in order to eat them.'

The restriction on negation also holds for Akan SVCs.

- (3.68) **O-e-n-huru a-n-to nsu no mu.**
 3ss-COMPL-NEG-jump COMPL-NEG-fall river DEF in
'S/he did not jump into the river.'
 (Akan, Osam 1994, p. 212, ex. 24b.)

Osam (1994) states that negation must be marked on both verbs. Earlier mentions of the constraint include Dolphyne (1987), Schachter (1974) and Boadi (1968). Boadi (1968) notes that there is no overt coordination occurring in constructions, such as (3.68), which he calls coordinations, and comments that these constructions are joined instead by agreement of mood, which he understands to include polarity, and identical tense.

In Baule, there is one case in which the ESC can contain only a single marker of negation. This case is the negative imperative.

- (3.69) **Nan to di.**
 NEG buy.IMP eat.IMP
'Don't buy and eat it.' (Baule)

Example (3.69) is the negative imperative corresponding to ESC (3.2) (repeated).

- (3.2) ɔ to-li ofɛ di-li.
 3ss buy-COMPL papaya ate-COMPL
 'S/he bought papaya and ate it.' (Baule)

Alternative to (3.69) is a form in which negation is marked twice.

- (3.70) Nan to nan di.
 NEG buy.IMP NEG eat.IMP
 'Don't buy and don't eat it.' (Baule)

It is not possible to mark negation twice in the negative imperative of all ESCs.

Examples (3.5) and (3.7) are negated in the imperative by a single negation marker only.

- (3.71) cf. (3.5) Nan yi i (*nan) fite.
 NEG pull.IMP 3so (*NEG) exit.IMP
 'Don't pull him/her out.' (Baule)

- (3.72) cf. (3.7) Nan fa (*nan) mɛn i.
 NEG take.IMP (*NEG) give.IMP 3so
 'Don't give that to him/her.' (Baule)

I will return to this difference in the analysis in Chapter 4.

3.2.4 Adverb distribution is constrained

In Baule, a sentence adverb can only appear at the beginning of an ESC and cannot appear in a position before V2.

- (3.73) Atrekpa be tra-li kangale-'n di-li.
 probably 3ps catch-COMPL panther-DEF eat-COMPL
 'Probably they caught the panther and ate it.'

- (3.74) *Be tra-li kangale-'n atrekpa di-li.
 3ps catch-COMPL panther-DEF probably eat-COMPL
 Intended reading: 'They caught the panther and probably ate it.'

Baule sentence adverbs include **atrekpa** and **nanwɛ**. Sentence adverbs can only appear in sentence initial position.

- (3.75) **(Nanwɛ) Kofi (*nanwɛ) man-ni**
 (truly) Kofi (*truly) gave-COMPL
(*nanwɛ) mi (*nanwɛ) fluwa (*nanwɛ)
 (*truly) me (*truly) paper (*truly)
'Kofi definitely gave me paper.'

A sentential complement can start with a sentence level adverb.

- (3.76) **Kofi se-li kɛ atɛkpa be di-li kangale-'n.**
 Kofi say-COMPL that possibly 3ps eat-COMPL panther-DEF.
'Kofi said that probably they ate the panther.'

Example (3.76) provides further confirmation that it is inappropriate to analyze the V2-clause as a complement of the V1-clause.

The RSC allows a sentence adverb to appear in the middle of the construction, directly preceding the subject marker of V2.

- (3.77) **Be tra-li kangale-'n atɛkpa be di-li.**
 3ps catch-COMPL panther-DEF probably 3ps eat-COMPL
'They caught the panther and probably they ate it.'

Diagnostics involving the scope of adverbs have been used by Stewart (1998) in his analysis of serialization in Edo. Stewart (1998) points out that in an Edo SVC, an adverb preceding the first verb modifies the actions expressed by both verbs in the sentence.

- (3.78) **Òzọ gié!gié dú!nmwún èmà khié!nné.**
 Ozo quickly pound yam sell.PL
'Ozo quickly pounded the yams and sold them.'
 (Edo, Stewart 1998, p. 30, ex. 8b.)

The SVC in (3.78) expresses that both the pounding of the yams and the selling of the yams happened quickly. Stewart (1998) states that this example contrasts with examples such as (3.79), which do not involve object sharing.

- (3.79) **Òzó gié!gié gbó!ó ívìn b̀lóló ókà.**
 Ozo quickly plant coconut peel corn
'Ozo quickly planted the coconut and [he] peeled the corn.'
 (Edo, Stewart 1998, p. 30, ex. 8c.)

Under Stewart's (1998) analysis (3.79) is an example of covert coordination. This example expresses clearly that the planting of the coconut happened quickly. There is no particular implication for how the peeling of the corn happened.

As previously stated, my assumption is that the Baule ESC is a sort of covert coordination. Given the contrast observed by Stewart (1998) in Edo, the prediction for Baule is obvious. If the Baule ESC is parataxis, then the scope of an adverb should be limited to its own conjunct. This prediction turns out not to hold. Instead, in the Baule ESC the adverb is ambiguous between modifying the action of the verb in its own conjunct, or the action of the verbs in both conjuncts.

In Baule, an adverb cannot intervene between the subject and the verb, but instead follows the object. When the adverb, shown in *italics*, follows the V1-object, it can be understood to modify either V1 or both V1 and V2.

- (3.80) **Kε nzuewe kun Aya ɔ sa nzue ndendε nɔn.**
 When thirst kill Aya 3ss draw water quickly drink
'When Aya is thirsty, she draws water and drinks it quickly.'

Example (3.80) can be interpreted to mean either both the drawing and the drinking of the water happen quickly, or that only the drawing of the water happens quickly.

Example (3.81) shows the RSC corresponding to (3.80).

- (3.81) **Kε nzuewe kun Aya ɔ sa nzue ndendε ɔ nɔn.**
 When thirst kill Aya 3ss draw water quickly 3ss drink
'When Aya is thirsty, she draws water and drinks it quickly.'

The RSC has exactly the same interpretational possibilities as the ESC. Either both actions are executed quickly, or only the first action is executed quickly.

If the adverb follows the V2-object, a similar pattern arises.

- (3.82) **Kɛ nzuewe kun Aya ɔ sa nzue nɔn i ndɛndɛ.**
 When thirsty kill Aya 3ss draw water drink 3so quickly
'When Aya is thirsty, she draws water and drinks it quickly.'

Either example (3.82) expresses that both the drawing and the drinking took place quickly, or it expresses that only the drinking took place quickly. The corresponding RSC is illustrated in (3.83).

- (3.83) **Kɛ nzuewe kun Aya ɔ sa nzue ɔ nɔn i ndɛndɛ.**
 When thirsty kill Aya 3ss draw water 3ss drink 3so quickly
'When Aya is thirsty, she draws water and drinks it quickly.'

Here, the interpretational possibilities are the same as for the ESC.

The following examples demonstrate that both the ESC and the RSC contrast with coordination with respect to the scope of adverbs. An adverb following the object of a verb only modifies the action expressed by that verb. In (3.84), the adverb follows the V1-object.

- (3.84) **Kɛ nzuewe kun Aya, ɔ sa nzue ndɛndɛ kpekun ɔ nɔn.**
 When thirsty kill Aya 3ss draw water quickly and 3ss drink
'When Aya is thirsty, she draws water and drinks it quickly.'

This example expresses that the drawing was quick, but does not specify how the drinking occurred. When the adverb follows the V2-object, as in (3.85), the effect is exactly parallel.

- (3.85) **Kɛ nzuewe kun Aya ɔ sa nzue kpekun ɔ nɔn i ndɛndɛ.**
 When thirsty kill Aya 3ss draw water and 3ss drink 3so quickly
'When Aya is thirsty, she draws water and drinks it quickly.'

This example expresses that the drinking was quick, but does not specify how the drawing occurred.

In sum, Baule ESC can contain only one sentence-level adverb, which must occur at the left edge of the construction. In general, VP-level adverbs are ambiguous in

scope and can modify the action expressed by the entire ESC or only the action expressed by their own verb.

3.2.5 Sentential complement cannot contain a coupled argument

In Baule ESC, if an argument occurs in a sentential complement, it cannot be referentially coupled.²⁴ If a subject is located in a sentential complement, it must be expressed overtly.

- (3.86) ɔ_i to-li akɔ-'n ɔ_i se-li kɛ *(ɔ_{i/k}) di-li.
 3ss_i buy-COMPL chicken-DEF 3ss_i say-COMPL that 3ss_{i/k} eat-PAST
 'S/he bought the chicken and said that she ate it.' (Baule)

This subject can be interpreted with extrasentential reference, meaning that it is not coupled.

In the Benefactive ESC/RSC in (3.87), the unexpressed object of V2 is referentially coupled with the object of V1.

- (3.87) ɔ fa-li akɔ'n (ɔ) man-ni talua mun.
 3ss take-COMPL chicken.DEF (3ss) give-COMPL girl DEF.PL
 'S/he gave the girls the chicken.' (Baule)

In (3.88) the coupled object has been embedded in a sentence complement.

²⁴ Collins (1997a) observed for Ewe that the shared object of a SVC cannot occur in a sentential complement.

- (i) *Me wlɔ ga la gblɔ be Kofi bu.
 I hide money DEF say that Kofi lose
 'I hid the money and said that Kofi lost it.'
 (Ewe, Collins 1997a, p. 476, ex. 50a.)

Although I draw a distinction between 'argument sharing' in SVCs and 'argument coupling' in the ESC, there are obviously extensive similarities. I leave the investigation of these similarities to future work.

- (3.88) ***ʈ fa-li ako-'n se-li kɛ ɔ man-ni talua mun.**
 3ss take-COMPL chicken-DEF say-COMPL that 3ss give-COMPL girl DEF.PL
 Intended reading: 'S/he took the chicken and said she gave it to the girls.' (Baule)

The unacceptability of this example shows that a coupled pronoun cannot occur in a sentence complement.

3.2.6 *Referential coupling is subject to alignment*

The reference restrictions imposed on shared subjects and shared objects in the Baule ESC constitute an alignment effect. Subjects must be coupled with subjects and objects must be coupled with objects. For example, in (3.1) those who bought water drank the water. What was drunk was exactly what was bought.

- (3.1) **B-'a sa nzue a nɔn.**
 3ps-PERF draw water PERF drink
 'They have drawn water and drunk it.' (Baule)

For (3.1), it would be possible to attribute the alignment effect to the fact that coupling of the subject of V2 to the object of V1 would describe the odd situation in which they drew water and the water itself drank. Other examples show that a pragmatic explanation fails to completely account for the alignment effect.

- (3.3) **Be tra-li kangale-'n di-li.**
 3ps catch-COMPL panther-DEF eat-COMPL
 'They caught the panther and ate it.' (Baule)

Example (3.3) means that some people caught the panther and that those people also ate that panther. It is pragmatically possible that these pronouns could have interchanged reference. In other words, it is imaginable that the sentence could mean that some people caught the panther and that the panther turned on its captors and ate them.

In a Baule sentence containing multiple finite verbs, the object of V1 cannot be understood as the subject of V2 unless the subject of V2 is marked overtly.

- (3.89) ***Aya fle-li talua mun sro-li.**
 Aya call-COMPL girl DEF.PL respond-COMPL
 Intended reading: 'Aya called the girls and they responded.' (Baule)

- (3.90) **Aya fle-li talua mun be sro-li.**
 Aya call-COMPL girl DEF.PL 3ps respond-COMPL
 'Aya called the girls and they responded.' (Baule)

This fact would be unexpected if Baule were a classical serializing language.

3.2.7 *Restriction on meaning*

The ESC in Baule is subject to strict meaning restrictions. If the subject of V1 is a volitional agent, then the subject of V2 must also be volitional.

- (3.91) **Aya sa nzue wutu i.**
 Aya draws water spills 3so
 'Aya draws water and spills it (on purpose).' (Baule)

Example (3.91) cannot mean that Aya draws water and then spills it by accident. In order to express accidental spilling, it is necessary to use the following construction.

- (3.92) **Kε nzuewe kun Aya, ɔ sa nzue, wun ɔ wutu i.**
 When thirsty kill Aya, 3ss draws water same-time 3ss spills it
 'When Aya is thirsty, she draws water and spills it (by accident).' (Baule)

In this construction, an overt marker of subordination joins two clauses.

The restriction that arises with a volitional agent has been pointed out for Akan by Osam (1994). According to Osam (1994), the SVC cited in (3.93) has a purposive interpretation.

- (3.93) **ɔ-tow-w bobaa bɔ-ɔ no.**
 3ss-throw-COMPL stone hit-COMPL 3so
 'He threw a stone at (to hit) her.'
 (Akan, Osam 1994, p. 200, ex. 11b.)

Speakers understand that the stone was thrown in order to hit the person. The SVC contrasts in this way with the coordination.

- (3.94) **Kofi tow-w bobaa ma ɔ-kɔ-bɔ-ɔ Esi.**
 Kofi throw-COMPL stone and 3ss-go-hit-COMPL Esi
'He threw a stone and it hit Esi.'
 (Akan, Osam 1994, p. 200, ex. 12)

Osam (1994) states that speakers are more likely to use the coordination if it was an accident that the stone hit Esi.

It is not, however, necessary that the ESC involve a volitional agent.

- (3.95) **Veri-'n to-li bo-li.**
 Glass-DEF fell-COMPL broke-COMPL
'The glass fell and broke.' (Baule)

If there is no agent, it is not as easy to formulate a characterization of the restriction of meaning in effect on the ESC. It appears that the relationship between the two verbs must involve causality. The second verb expresses an event that is a natural successor, or perhaps even an unavoidable consequence, of the event expressed by the first verb.

Another meaning constraint in effect in the ESC is that it is not possible to interpret the actions expressed by the two verbs as occurring simultaneously, or in an alternating way. This constraint is mentioned by Hellan, Beermann and Andenes (2003) for Akan.

- (3.96) **Ama re-noa na re-di.**
 Ama PROG-cook and PROG-eat
'Ama eats (a little) while cooking.'
 (Akan, Hellan, Beermann and Andenes 2003, p. 63, ex. 3c.)
- (3.97) **Ama re-noa a-di.**
 Ama PROG-cook CONS-eat
'Ama is cooking and (then) eating.'
 (Akan, Hellan, Beermann and Andenes 2003, p. 63, ex. 3d.)

This constraint also holds in Baule.

3.3 Unexpressed arguments in the ESC are null pronouns

In this section, support is provided for the claim that in Baule ESC both verbs project their arguments into the syntax in the same way that they would in simple sentences. Arguments unexpressed in the surface string are simply null pronouns. Baker and Stewart's (2002) E-type reading test for diagnosing null pronouns is introduced, then this test is applied to unexpressed objects in Baule and then to unexpressed subjects. In the final section, a syntactic structure for Baule consistent with a null pronoun account of the ESC is proposed.

3.3.1 Using E-type readings to diagnose null pronouns

Baker and Stewart (2002) originated the use of E-type readings to diagnose null pronouns in serialization constructions. The line of reasoning that they apply is simple. E-type readings occur in contexts in which a pronoun is has a quantifier antecedent that doesn't c-command it; if an E-type reading arises it must reflect the presence of a pronoun (p. 24).

Baker and Stewart (2002) use the occurrence of an E-type reading to demonstrate that in some SVCs a referential element, which they analyze as a null pronoun, follows the second verb. Their original examples are from Edo and they are repeated here to illustrate the test. In the first example, the unexpressed argument turns out to be a null pronoun and in the second, the unexpressed argument cannot be concluded to be a null pronoun. In the SVC in (3.98), the direct object of V1, **read**, is not overtly expressed.

- (3.98) **Òzọ dẹ èbé khéhré tié.** (Consequential SVC)
 Ozo buy book little read
 'Ozo bought (a) few books and read them.'
 (Edo, Baker and Stewart 2002, p. 23, ex. 29)

The interpretation of (3.98) is that Ozo bought some books and that he read all of the books that he bought. Baker and Stewart (2002) note that this SVC is inappropriate in situations in which Ozo buys many books but reads only a few of them. Ozo must read all the books that he buys. This maximality effect signals that the unexpressed argument of read receives an E-type reading, as discussed in Chapter 2. Baker and Stewart (2002) call (3.98) a Consequential SVC. The point about the Consequential SVC that is relevant for this discussion is that it contrasts with (3.99), the second example, which Baker and Stewart (2002) call a Resultative SVC.

- (3.99) **Òzó sùá èrhán khérhé dè-lé.** (Resultative SVC)
 Ozo push tree few fall-PL
 'Ozo pushed (a) few trees down.'
 (Edo, Baker and Stewart 2002, p. 23, ex. 28)

Example (3.99) does not necessitate that all the trees that Ozo pushes fall. Because this sentence is appropriate in contexts in which some of the trees that Ozo pushes do not fall, we see that there is no maximality effect. In short, the unexpressed V2-subject in this sentence does not receive an E-type reading and therefore cannot be concluded to be a null pronoun.

3.3.2 *Unexpressed objects are null pronouns*

Applied to Baule ESC, the E-type reading test demonstrates that the unexpressed object of V2 is a null pronoun. In the following example, the object of V1 in (3.2) has been replaced with a (appropriate) quantified NP in order to create the proper prerequisite for an E-type reading.

- (3.100) cf. (3.2) **ɔ to-li oflɛ nyon cɛ di-li.**
 3ss buy-COMPL papaya two only eat-COMPL
 'S/he bought only two papayas and ate them.'

This sentence means that the person involved bought only two papayas and ate both of the papayas that s/he bought. The unexpressed object has an E-type reading and since it has an E-type reading it must be a pronoun.

In the Akan literature, SVCs are standardly divided in to two classes. A parallel division can also be demonstrated for the ESC in Baule. Osam (1994) has suggested that in Akan these two classes are a reflex of two underlying structures. Agyeman (2002) has proposed that in Akan, argument sharing is accomplished by a different mechanism in each of these classes. In order to make a watertight argument that the unexpressed objects of each of (3.1) - (3.7) are null pronouns, it is necessary to take a look at the Akan dichotomy and its correlate in Baule. I will show that unexpressed arguments in all of (3.1) - (3.7) are null pronouns, and that the two classes of ESC in Baule do not differ in this regard.

The first to identify two classes of SVC in Akan was the nineteenth-century author Christaller (1875), who called them *Accidental Combinations* and *Essential Combinations*. This bipartite classification has been treated in detail in Osam (1994), who introduced the terms *Chaining Type* and *Integrated Type*, to describe these classes. Osam's terminology was adopted Agyeman (2002) and Hellan, Beermann and Andenes (2003) who further investigated the dichotomy. These authors characterize Accidental Combinations of verbs (Chaining Type SVCs) in Akan as describing a temporal sequence of events and the verbs involved retain the meaning that they would have in isolation. An example of an Accidental Combination is given in (3.101).

- (3.101) **Araba tɔ-ɔ nam kyew-ee Ø_{object} tɔn-ee Ø_{object}**
 Araba buy-COMPL fish fry-COMPL sell-COMPL
 'Araba bought fish, fried it and sold it.'
 (Akan, Osam 1994, p. 194, ex. 1a.)

Osam (1994) points out that it is possible to introduce a conjunction into an Accidental Combination, as shown in italics (3.102), without affecting the acceptability of the construction. As in Baule coordination, both subjects must be marked overtly in coordination in Akan.

- (3.102) **Araba tɔ-ɔ nam na ɔ-kyew-ee Ø_{object} na ɔ-tɔn-ee Ø_{object}**
 Araba buy-COMPL fish and 3ss-fry-COMPL and 3ss-sell-COMPL
'Araba bought fish, fried it and sold it.'
 (Akan, Osam 1994, p. 195, ex. 2a.)

The Accidental Combination differs in this way from the Essential Combination of verbs (Integrated Type SVC). An example of a SVC involving an Essential Combination of verbs is shown in (3.103).

- (3.103) **Akosua yɛ-ɛ asɔr ma-a Yaw.**
 Akosua do-COMPL prayer give-COMPL Yaw
'Akosua prayed for Yaw.'
 (Akan, Osam 1994, p. 194, ex. 1b.)

Introducing a conjunction into such a SVC example does not result in an acceptable coordination.

- (3.104) ***Akosua yɛ-ɛ asɔr na ɔ-ma-a Yaw.**
 Akosua do-COMPL prayer and 3ss-give-COMPL Yaw
 Intended reading: *'Akosua prayed and gave Yaw.'*
 (Akan, Osam 1994, p. 195, ex. 2b.)

Osam (1994) explains this contrast in terms of a continuum of tightness of semantic integration of the two verbs. Although I will make extensive use of Osam's test involving the introduction of conjunctions, I do not pursue his theory of a

continuum of semantic integration, but instead look for a parametric difference between Accidental Combinations and Essential Combinations.²⁵

The Baule examples in (3.1) - (3.7) fall into two neat classes, parallel to Accidental Combinations and Essential Combinations of verbs, according to the effect resulting from the introduction of a conjunction. I discuss each of these classes in turn.

3.3.2.1 ESC involving Accidental Combinations of verbs

The ESC examples (3.1) - (3.4) involve Accidental Combinations of verbs. We arrive at this conclusion by confirming that the introduction of an overt conjunction into these examples creates an acceptable coordination. The E-type pronoun test reveals that each of these examples contains a null object in the second conjunct.

The ESC examples (3.1) - (3.3) (repeated) are called Theme ESC because the V1-object and the unexpressed V2-object are Themes of their respective verbs. This designation is adopted from Law and Veenstra's (1992) discussion of serialization.

- (3.1) **B-'a sa nzue a nɔn.**
 3ps-PERF draw water PERF drink
 '*They have drawn water and drunk it.*' (Baule)

²⁵ Although there are extensive similarities between the Baule ESC and the Akan SVC, I do not advocate that the Akan SVC should also be called ESC. For Akan, SVC examples such as (i) are cited frequently.

- (i) **Kofi gye-e Ama di-i.**
 Kofi received Amma ate
 '*Kofi believed Amma.*'
 (Akan, Schachter 1974, p. 254, ex. 2g.)

Osam (1994) calls **gye...di** a lexicalized verb pair and states that it is a case of two verbs expressing a unitary concept (p. 204). My fieldwork in Baule has not turned up an example like (i), nor any examples of the ESC that Baule speakers feel express a unitary concept not directly derived from meaning of the two verbs used separately. I am wary of overhasty generalizations from Baule to Akan, and will continue to use the term 'Serial Verb Construction' when referring to Akan examples.

- (3.2) **ɔ to-li oflɛ di-li.**
 3ss buy-COMPL papaya ate-COMPL
 '*S/he bought papaya and ate it.*' (Baule)
- (3.3) **Be tra-li kangale-'n di-li.**
 3ps catch-COMPL panther-DEF eat-COMPL
 '*They caught the panther and ate it.*' (Baule)

There is no change of acceptability when a conjunction is introduced into these ESC examples to create coordinations. The resulting coordinations have exactly the same translations as the original ESC examples.

- (3.105) cf. (3.1) **B-'a sa nzue kpekun b-'a nɔn.**
 3ps-PERF draw water and 3ps-PERF drink
 '*They have drawn water and drunk it.*' (Baule)
- (3.106) cf. (3.2) **ɔ to-li oflɛ kpekun ɔ di-li.**
 3ss buy-COMPL papaya and 3ss ate-COMPL
 '*S/he bought papaya and ate it.*' (Baule)
- (3.107) cf. (3.3) **Be tra-li kangale-'n kpekun be di-li.**
 3ps catch-COMPL panther-DEF and 3ps eat-COMPL
 '*They caught the panther and ate it.*' (Baule)

The E-type reading test can be applied to all of (3.1) - (3.3) as was demonstrated for (3.2) using (3.100). In each case the second verb can be shown to have a null pronoun object.

Example (3.4) (repeated) is an ESC expressing an action accomplished with an instrument, referred to as *Instrumental ESC*.

- (3.4) **ɔ fa-li laliɛ kpe-li kpaun-'n.**
 3ss take-COMPL knife cut-COMPL bread-DEF
 '*S/he used a knife to cut the bread.*' (Baule)

The addition of the overt conjunction to (3.4), illustrated in (3.108), results in a grammatical construction.

- (3.108) cf. (3.4) **ɔ fa-li laliɛ-'n kpekun ɔ kpe-li kpaun-'n.**
 3ss take-COMPL knife-DEF and 3ss cut-COMPL bread-DEF
 'S/he used the knife to cut the bread.'
 'S/he took the knife and cut the bread.' (Baule)

The coordination in (3.108) can be used synonymously with the ESC example in (3.4), namely in situations in which the person involved cut the bread with a knife.

In Baule, it is not necessary to use an ESC to express an action accomplished with an instrument. A construction containing only a single finite verb can be used as well.

In such constructions, the instrument is introduced with the preposition *nin*, standardly glossed 'with'.

- (3.109) **ɔ kpe-li kpaun-'n nin laliɛ.**
 3ss cut-COMPL bread-DEF with knife
 'S/he cut the bread with a knife.' (Baule)

As an alternate to (3.109), Baule speakers accept the instrumental double object construction in (3.110) as marginal.

- (3.110) ??**ɔ kpe-li kpaun-'n i laliɛ.**
 3ss cut-COMPL bread-DEF 3so knife
 'He cut the bread with the knife.' (Baule)

The fact that **kpe**, 'cut', can marginally appear with two objects in a simple sentence provides motivation for positing the presence of an instrument null object in the Instrumental ESC as shown in (3.4)'.²⁶

- (3.4)' **ɔ fa-li laliɛ_i kpe-li kpaun-'n pro_i**
 3ss take-COMPL knife_i cut-COMPL bread-DEF pro_i
 'S/he used a knife to cut the bread.' (Baule)

The instrumental double object construction improves markedly when the direct object is human.²⁶

²⁶ There is a general preference in Baule for the first object in a double object construction to be animate or human. For Benefactive ditransitives, this preference has the status of a constraint.

- (3.111) **Aya kpe-li Konan i lalie.**
 Aya cut-COMPL Konan 3so knife
 'Aya hurt Kofi with the knife.'

In neither (3.110) nor in (3.111) is the order of the objects reversible. The Theme is always the first object and the Instrument is always the second object. The verb **kpe**, 'cut', projects both a direct object and an instrumental object as a pronoun in the syntax when it is used as V2 in the ESC, just as it does in single-verb examples such as (3.110) or (3.111).

Evidence that V2 projects an Instrumental null pronoun derives from the fact that this null pronoun receives an E-type reading.

- (3.112) **Kofi fa-li waka kun-gba ti-li amango mun.**
 Kofi take-COMPL stick one-single pick-COMPL mango DEF.PL
 'Kofi uses only one stick and harvests the mangoes.' (Baule)

This example means that Kofi picks up one stick total and uses that stick to harvest mangos.²⁷

-
- (i) ***N man-ni waka-'n i bua.**
 1so give-COMPL wood-DEF 3so sheep
 Intended reading: 'I gave the wood (the design of) a sheep.' (Baule)

Example (i) has no possible interpretation that the piece of wood is being decorated with the design of a sheep. One consultant told me that (i) could only be possible in a case in which the wood was the object of religious adoration. We were unable to generate any examples using the verb **man**, 'give' in which the first object was not an animate or a human. I believe that the reason for the preference that the first object is animate or human in double object constructions involves a requirement that the two objects differ maximally in their animacy.

²⁷ If the ESC is considered in terms of classic GB, Binding Theory reveals further evidence for the presence of a null pronoun instrument. In the Instrumental SVC the object of V2 cannot refer to the same entity as the object of V1.

- (i) **Be fa man lalie, kpe men i_{j/k}**
 3ps take NEG knife, cut NEG 3so_{*j/k}
 'You can't use a knife to cut it.' (Baule)

Example (i) means that a knife cannot be used to cut some other object. This example does not mean that it is not possible to use a knife to cut itself. The second reading is excluded, since it would require V2 to have a null instrument object referring to the same entity as its direct object, as in (ii).

In sum, Baule has a class of ESC corresponding to Akan SVC involving Accidental Combinations of verbs. In all cases, the E-type pronoun test reveals that the second verb projects a null pronoun object.

3.3.2.2 ESC involving Essential Combinations of verbs

Constructions (3.5) - (3.7) fall into the class of ESC examples involving Essential Combinations of verbs in Baule. The introduction of an overt conjunction causes a radical shift in interpretation, or worse, ungrammaticality. Consider the Theme ESC in (3.5) (repeated.)

- (3.5) **Talua mun be yi-li Konan fite-li kuman nun.**
 girls DEF.PL 3ps move-COMPL Konan extract-COMPL hole in
 'The girls pulled Konan out of the hole.' (Baule)

Introduction of the conjunction in yields a grammatical result, but the meaning of the construction changes.

- (3.113) **Talua mun be yi-li Konan kpekun**
 girls DEF.PL 3ps move-COMPL Konan and
 be fite-li kuman nun.
 3ps emerge-COMPL hole in
 'The girls pulled Konan out and they exited the hole.' (Baule)

This coordination expresses that the girls pulled Konan out of some specified place, for example, out of the mud at the bottom of the hole, and then they themselves exited the hole. In contrast, when the ESC example in (3.5) is used, it is clear that the

-
- (ii) ***Be_k fa man laliε_j pro_k kpe men i_j pro_j**
 3ps take NEG knife_j cut NEG 3so_j
 Intended reading: 'You can't use a knife to cut itself.' (Baule)

The instrumental pronoun is bound within its Governing Category, but is not a reflexive and is therefore unacceptable.

girls were never themselves in the hole, but standing on the edge and pulling Konan out from there.

In (3.5)' the site of the proposed null object marked.

- (3.5)' **Talua mun be yi-li Konan**
 girls DEF.PL 3ps move-COMPL Konan
fite-li *pro*_{object} **kuman nun.**
 emerge-COMPL hole in
'The girls pulled Konan out of the hole.' (Baule)

The E-type pronoun test provides proof that the unexpressed object of V2 in (3.5) is a null pronoun. If the object of the first verb is a quantified NP, this unexpressed object receives an E-type reading. I demonstrate the E-type reading using the following example.

- (3.114) **Talua mun be yi-li waka nyon ce**
 girls DEF.PL 3ps move-COMPL wood two only
fite-li kuman nun.
 extract-COMPL hole in
'The girls pulled only two pieces of wood out of the hole.'

This sentence means that the girls pulled only two pieces of wood out and that those two pieces of wood came out of the hole. It cannot mean that they pulled at all of the pieces of wood and only two came out of the hole.

A possible alternative explanation for the contrast between the ESC in (3.5) and corresponding coordination in (3.113) is that in the ESC, **fite** is being used intransitively and that (3.5) is underlyingly *The girls pulled Konan and he emerged from the hole*. It is necessary to reject this possibility, due the form of (3.5) takes in the negative.

- (3.115) *The negation of (3.5)*
Talua mun b'a yi man Konan
 girls DEF.PL 3ps-PERF move NEG Konan
b'a fite man kuman nun.
 3ps-PERF emerge NEG hole in
*'The girls didn't pull Konan out of the hole.'*²⁸ (Baule)

In (3.115) we see that the subject of V2 has been expressed with a subject marker and that this subject marker is second person plural. The underlying subject of V2 must therefore be **talua mun**, 'the girls', and not **Konan**. If **Konan** were the underlying subject of **fite** in (3.5), we would expect the negation of (3.5) to be (3.).

- (3.116) *Not the negation of (3.5)*
Talua mun b'a yi man Konan
 girls DEF.PL 3ps-PERF move NEG Konan
ɔ'a fite man kuman nun.
 3ss-PERF emerge NEG hole in
'The girls didn't pull Konan; he didn't emerge from the hole.' (Baule)

Example (3.) is not the correct negation of (3.5).

Examples (3.6) and (3.7) (repeated) are *Benefactive ESC*, expressing transfer to a beneficiary introduced by V2.

- (3.6) **Talua mun b-'a kan ndɛ-'n a kle mi.**
 girl DEF.PL 3ps-PERF say word-DEF PERF show me
'The girls have told me the news.'
- (3.7) **Aya fa-li fluwa-'n man-ni mi.**
 Aya take-COMPL book-DEF give-COMPL 1so
'Aya gave me the book.'

²⁸ Note that the verbs in (3.5) are marked with completive aspect and the verbs (3.115) are marked perfect is not an inconsistency. Recall from the introduction that the negative of the perfect is also used to negate the completive.

Insertion of conjunctions demonstrates that both of these examples involve Essential Combinations of verbs. In the case of (3.6), the insertion of a conjunction yields a grammatical result, but the interpretation of the construction has shifted.

- (3.117) cf. (3.6) **Talua mun b-'a kan nde-'n kpekun b-'a kle mi.**
 girl DEF.PL 3ps-PERF say word-DEF and 3ps-PERF show me
 *'The girls have told me the news.'
 'The girls announced the news and showed me it.' (Baule)

Example (3.117) would be appropriate in a situation where the girls concerned have just hidden some money and have shown the hiding place to the speaker. By saying (3.117) the speaker is reporting that the girls proclaimed the news (i.e. that they had hidden the money) and showed him something (i.e. the place where the money had been hidden).

In the case of example (3.7), insertion of an overt conjunction again causes significant change, in fact, this time the result is unacceptability.

- (3.118) cf. (3.7) ***Aya fa-li fluwa-'n kpekun o man-ni mi.**
 Aya take-COMPL book-DEF and 3ss give-COMPL 1so
 Intended reading: 'Aya took the book and gave it to me.'

Example (3.7) has no alternate meaning, but is simply uninterpretable. The position of the proposed null object is illustrated in (3.119).

- (3.119) cf. (3.7) **Aya fa-li fluwa-'n man-ni mi** *pro*_{object}
 Aya take-COMPL book-DEF give-COMPL 1so
 'Aya gave me the book.' (Baule)

The E-type reading test reveals that this null object is indeed present as such in the syntax. Consider the following example with a quantified NP object in the first conjunct.

- (3.120) cf. (3.7) **Aya fa-li fluwa nyon ce man-ni mi** *pro*_{object}
 Aya take-COMPL book two only give-COMPL 1so
 'Aya only gave me two books.'

This example means that Aya gave me only two books. It is not possible that this sentence is applied to a case in which Aya picked up a lot of books, but gave me only two of them. It is necessarily the case that Aya gives me both the books that she picked up.

In sum, Baule has a class of ESC corresponding to Akan SVC involving Essential Combinations of verbs. In all cases the E-type pronoun test reveals that the second verb projects a null pronoun object.

3.3.3 *Unexpressed subjects are null pronouns*

Strong evidence that unexpressed subjects are projected into the syntax was provided independently of the E-type reading test by the fact that subject tones are always present in Baule ESC, as was shown in (3.23) (repeated).

- (3.23) ò sú fà tánnì 'màn Kouàdió.
 3ss PROG take cloth give Kouadio
 'He's giving the cloth to Kouadio.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 423)

The E-type pronoun test clinches the argument that subjects are projected into the syntax and that they are pronouns. The following ESC has the quantified subject necessary to apply the E-type pronoun test.

- (3.121) Talua nsan cɛ be tra-li wuo di-li.
 girl three only 3ps catch-COMPL snake eat-COMPL
 'Only three girls caught a snake and they ate it.'

This sentence is applicable only in situations in which three girls caught snakes, and in which all of those three girls also ate snakes. This interpretation demonstrates

that the unexpressed subject of V2 in (3.23) receives an E-type reading and can therefore be concluded to be a null pronoun.²⁹

The Baule example thus receives a different interpretation than the parallel English coordination.

(3.122) **Only three girls caught a snake and ate it.**

Example (3.122) does not entail that the girls that ate a snake are all the girls that verify the first conjunct, namely the girls that caught a snake. Rather this example is appropriate in situations in which many girls caught a snake, as long as only three girls caught and ate a snake. No maximality effect arises and no E-type pronoun is present. The contrast between Baule example (3.23) and English example (3.122) is sharp and cannot be overlooked.³⁰

The generalization that the unexpressed subject receives an E-type reading when associated with a quantified NP holds of all Baule ESC, including examples involving Accidental Combinations of verbs as well as examples involving Essential Combinations of verbs.

²⁹ This conclusion is verified by the fact that the ESC can be exchanged in discourse with a standard coordination, which requires an overt second subject.

(i) **Talua nsan ce be tra-li wuo kpekun be di-li.**
 girl three only 3ps catch-COMPL snake and 3ps eat-COMPL
'Only three girls caught a snake and they ate it.'

³⁰ At this point I know that at least in one other language that has serialization constructions in which the unexpressed second subject receives an E-type reading. This language is Edo.

(i) **Evbo khere de ebe ni tie.**
 few people bought book that read
'Few people bought that book and they read it.'
 (Edo)

This sentence means that few people bought a book and all the people that bought a book also read that book. How many other languages have this interpretation pattern for the unexpressed subjects of V2 in SVCs is an issue I leave to future work. (Thank you to Ota Ogie for discussion and data.)

3.4 Preliminary structure for Baule ESC

Enough requirements have now accrued to make possible a preliminary proposal of a structure for Baule ESC and to exclude certain inappropriate structures from consideration. It has been demonstrated that Baule ESC consists of two clauses each with its own representation of tense/aspect. The second clause is not a complement of the first. Each verb projects its full argument array and the E-type reading test confirms that unexpressed arguments are indeed null pronouns.

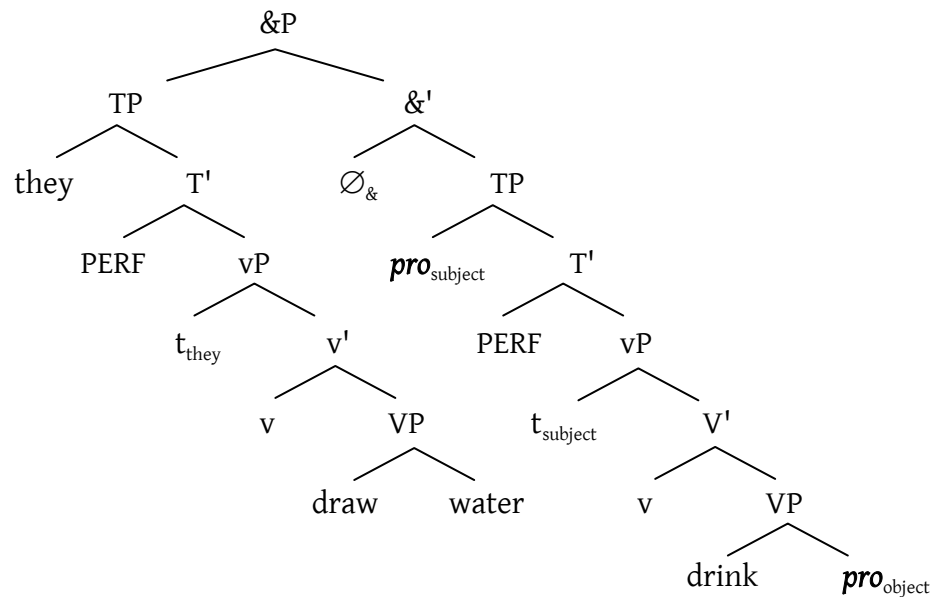
(3.1)' B-'a sa nzue *pro*_{subject} a nɔn *pro*_{object}
 3ps-PERF draw water *pro*_{subject} PERF drink *pro*_{object}
 'They have drawn water and drunk it.'

From the E-type reading test it can also be concluded that the arguments of the first verb do not c-command the arguments of the second verb. A reasonable assumption is that the two clauses are related by covert coordination. This assumption fulfills the no complementation, no c-command requirements imposed by the data.

A Boolean head, &, is assumed to project coordination, as with Norwegian EOC. I have assumed the VP-internal subject hypothesis and that the subject moves out of the VP to a surface position. The motivation for this assumption is that it allows the subject to receive a θ -role in a position local to the verb, but to surface preceding the aspect marker. The VP-internal subject hypothesis will not be of central importance in my account.

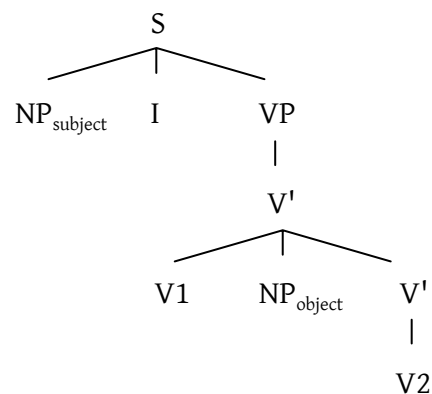
(3.123) *Structure for Baule ESC (preliminary)*

- Two clauses: Two representations of Tense/Aspect
- Two clauses: Two complete argument arrays
- Two clauses: V2-clause not a complement of V1
- V1-object does not c-command V2-object
- V1-subject does not c-command V2-subject



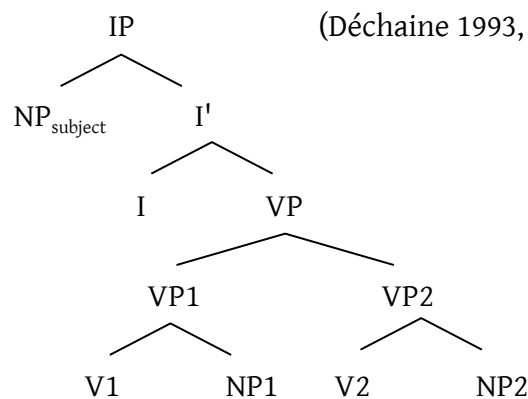
The ESC structure in (3.123) differs from SVC structures proposed in the literature in that it involves two TPs and therewith two (surface) subject positions. Baker (1989) proposes that SVCs involve a doubled headed verb phrase.

(3.124) (Baker 1989, adapted from p. 520, ex. 13)



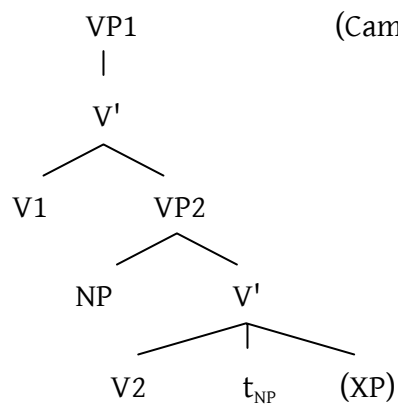
Baker's (1989) structure involves a single TP (here, S) which dominates both verbs. Déchaine (1993) also proposes a double headed verb phrase dominated by a single TP (i.e. IP). In her structure, the two verb phrases are sisters, and, dependent on the SVC, either the first or the second acts as the primary head.

(3.125) (Déchaine 1993, adapted from p. 804, ex. 18-19)

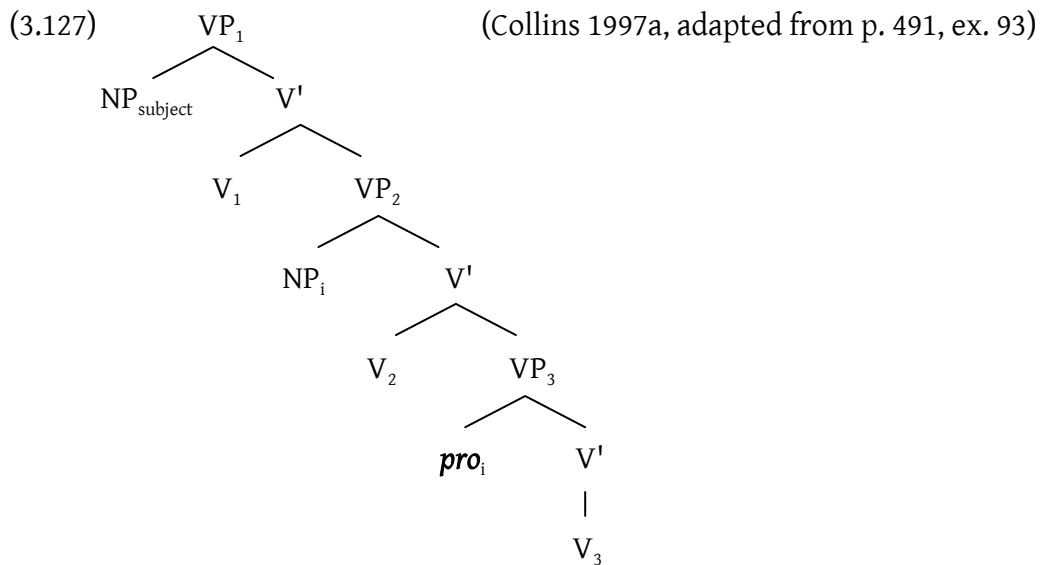


Campbell (1996) proposes a structure in which the second verb phrase is a complement of the first. The object of V2 raises at S-structure in order to receive case from V1. Both verb phrases are dominated by a single IP, not pictured.

(3.126) (Campbell 1996, adapted from p. 100, ex. 42)



Collins (1997a) proposes a structure in which V2 takes a *pro* argument that is controlled by the object of V1.



Both verb phrases are dominated by a single IP, not pictured. None of these four structures are appropriate for Baule, since in Baule each verb projects its own subject and is associated with its own tense/aspect.

The structures of Campbell (1996) and Collins (1997a) both have an additional characteristic that makes them inadequate structures for Baule ESC. In these two structures, the V1-object c-commands the VP including the V2-object. This c-command structure is inappropriate for Baule. Because the unexpressed V2-object in Baule receives an E-type reading, it is not possible that it is c-commanded by the V1-object with which it is referentially coupled. An appropriate structure for Baule is therefore the structure in (3.123), which will be refined in Chapter 4.

3.5 Licensing null pronouns in Baule

Arguments have been presented above that all unexpressed arguments in Baule ESC should be analyzed as null pronouns. A null-pronoun account of Baule ESC faces two major challenges. First, null pronouns in ESC display coupling effects. In other

words, they have constraints on their reference not shared by standard null pronouns. Second, not all null pronouns in ESC can be analyzed as instances of null pronouns that also occur in simple, non-coordinate sentences. In particular, null pronouns occurring in Essential-Combination ESC prove problematic. This section introduces standard null pronouns in Baule and presents an account explaining their distribution before turning to treatment of these two challenges. An extended analysis is developed that accounts for non-standard null objects occurring in Essential-Combination ESC.

3.5.1 *Introduction to standard null objects*

Standard null objects occur frequently in simple (non-coordinate) Baule sentences. The distribution of standard null pronouns is dependent on the verb that selects them. Baule verbs can be divided into two classes, *Object Drop verbs* and *Overt Object verbs*, according to whether or not they drop their objects. An Object Drop verb is required to drop a pronoun object clause finally if that pronoun object refers to a third person singular inanimate entity. Clause medially, Object Drop verbs cannot drop their object pronouns. Overt Object verbs may never drop their object pronouns.

The verb **nən**, 'drink', is an example of an Object Drop verb, as illustrated with the question/answer pair in (3.128).

- (3.128) **A nən-ni nzue-'n?** **Een, n nən-ni.**
 2ss drink-COMPL water-DEF yes 1ss drink-COMPL
 'Did you drink the water?' 'Yes, I drank it/some.'

In fact, the answer to the question would be unacceptable if an overt third person object were used, as shown in (3.129).

- (3.129) **Een, n nən-ni (*i)**
 yes 1ss drink-COMPL (*3so)
'Yes, I drank it/some.'

The verb **to**, 'buy', is another typical Object Drop verb and is used in the following examples to demonstrate that a clause-medial object cannot be dropped.

- (3.130) **Aya to-li.**
 Aya buy-COMPL
'Aya bought it.'
- (3.131) **Aya to-li i anuman.**
 Aya buy-COMPL 3so yesterday
'Aya bought it yesterday.'
- (3.132) ***Aya to-li anuman.**
 Aya buy-COMPL yesterday
 Intended reading: *'Aya bought it yesterday.'*

Object Drop verbs require the object pronoun to be overt, even clause finally, if the pronoun refers to an animate entity. This restriction is demonstrated with the contrast between (3.133) and (3.134).

- | | |
|--|---|
| <p>(3.133) A yi-li waka-'n?
 2ss remove-COMPL wood-DEF
 <i>'Did you removed the piece of wood?'</i></p> | <p>Een, n yi-li.
 yes 1ss remove-COMPL
 <i>'Yes, I removed it.'</i></p> |
| <p>(3.134) A yi-li Konan?
 2ss remove-COMPL Konan
 <i>'Did you removed Konan?'</i></p> | <p>Een, n yi-li *(i).
 yes 1ss remove-COMPL *(3so)
 <i>'Yes, I removed him.'</i></p> |

Table 3.1 illustrates a sample of Baule Object Drop verbs that select for inanimate objects and Object Drop verbs that select for either animate or inanimate objects.

Table 3.1 Examples of Baule Object Drop verbs

Object Drop verbs		Example verbs
subclass 1	verbs requiring inanimate objects	di 'eat'; gua 'put'; kangan 'read'; kle 'write'; nɔn 'drink'; sɔko 'cook'; to 'buy'
subclass 2	verbs admitting animate or inanimate objects	fa 'pick up'; kundɛ 'search for'; nian 'watch'; to 'buy, redeem'; yi 'extract'

Since an object pronoun in Baule drops only if it refers to an inanimate, a description of object drop in Baule requires a few words on the Baule animate/inanimate distinction. In Baule, animacy is not so much related to being alive as it is to being human and to being able to exercise volition. Human beings are always animate and are always referred to with an overt pronoun, independently of whether they are young or old, tied up or free moving, alive or deceased. Animals, on the other hand, are animate and must be referred to with an overt pronoun only as long as they are able to move independently.

The following examples used the Object Drop verb **kundɛ**, 'search for', to demonstrate the animate/inanimate distinction in Baule. Example (3.135) can be used if the chicken is assumed to have run away. The chicken is considered animate and **kundɛ**, 'search for', takes an overt object pronoun.

- (3.135) **N kundɛ-li i.**
 1ss search.for-COMPL 3so
'I searched for it (the chicken that ran and hid)'

If someone has hidden it, the chicken is no longer animate, and the object pronoun is dropped, as illustrated in (3.136).

- (3.136) **N kunde-li.**
 1ss search.for-COMPL
'I searched for it (the chicken the children hid).'

The verb **gua**, 'to put', which can only be used with inanimate objects, provides a further demonstration of the Baule animate/inanimate distinction. It is possible to use **gua** when the items involved are pieces of wood.

- (3.137) **N gua-li waka mun kuman nun.**
 1ss put-COMPL wood DEF.PL hole in
'I put the pieces of wood in the hole.'

However, it is not possible to use **gua** when humans are being put into a hole.

- (3.138) ***N gua-li bakangan mun kuman nun.**
 1ss put-COMPL children DEF.PL hole in

It is also not possible to use **gua** when chickens are being put into a hole, if the chickens are able to move.

- (3.139) **N gua-li ako mun kuman nun.**
 1ss put-COMPL chicken DEF.PL hole in
'I put the chickens (which were tied up) in the hole.'

Example (3.139) can only be used if the chickens are either dead, or are tied up by the feet so that they cannot move. Thus, it is the ability of the animal to exercise its own volition and move independently that is critical for the decision of whether the animal should be treated as animate or inanimate. The fact that Baule makes a distinction between volitional entities and entities not exercising volition will turn out to have a significance that transcends object drop.

It is important to note that the null object in Baule is not a reduction of the overt object marker. There is no floating tone associated with the null object of Baule.

- (3.140) **Bè tò-lí.**
 3ps buy-COMPL
'They bought it.'

The final morpheme of the verb with a null object complement bears sentence final high tone, which was discussed above with example (3.18).³¹

Examples of the second Baule verb class, Overt Object verbs, are given in Table 3.2.

Table 3.2 Examples of Baule Overt Object verbs

Overt Object verbs		Example verbs
subclass 1	verbs requiring animate objects	fuan 'chase away'; kpo 'detest'; kun 'kill'
subclass 2	change of state verbs	bo 'shatter'; bu 'break'; keje 'shake'; kpe 'cut'; wunzi 'wash'; wutu 'spill'; yonyon 'shrink'; yra 'burn'
subclass 3	psychological verbs	kan 'feel, touch'; klo 'like'; si 'know'; sro 'fear'; wun 'see'

Subclass 1 of Overt Object verbs contains verbs that select animate objects. These verbs could actually be considered to be Object Drop verbs that never drop their

³¹ This fact has implications for the ESC. Recall that above it was stated that ESC can be shown to involve two clauses because of the fact that V1 carries a clause final high tone. I illustrated this tonal pattern an ESC involving two intransitive verbs.

- (i) **ò kpàn-ní srò-lí.**
 3ss cry-COMPL respond-COMPL
 'She shouted a reply.'

It was necessary that V1 be intransitive, since if V1 is followed by a complement, that complement will trigger non-clause-final tone. Now that the standard null object in Baule has been introduced, it is possible to show that this tonal pattern also holds for ESC examples in which V1 is transitive.

- (ii) **ò tò-lí òl-lí.**
 3ss buy-COMPL ate-COMPL
 'S/he bought it and ate it.'

In (ii), V1 is a transitive verb and is shown to bear clause-final high tone in the ESC, when its direct object is a null pronoun. Object Drop verbs make it possible to confirm that the full range of ESC examples must involve two clauses.

objects because they only ever select animate objects. It is, however, more perspicuous to simply classify them as Overt Object verbs.

Subclass 2 of Overt Object verbs are verbs expressing actions that bring about a change of state in their direct objects. An example of such a verb is **yra**, 'burn'. Example (3.141) demonstrates that this verb prohibits object drop in all cases.

- | | | |
|---------|--|--|
| (3.141) | A yra-li fluwa-'n?
2ss burn-COMPL letter-DEF
'Did you burn the letter?' | Een, n yra-li *(i).
yes 1ss burn-COMPL *(3so)
'Yes, I burned it.' |
|---------|--|--|

Many of these verbs in subclass 2 have inchoative alternates in Baule. The verb **yra**, 'burn', is one such example. The inchoative alternate is illustrated in (3.142).

- (3.142) **N yra-li.**
 I burn-COMPL
 'I burned.'

There is an intuitively appealing explanation for why verbs with causative and inchoative variants in Baule do not permit object drop. If such verbs permitted object drop, examples like (3.142) would be ambiguous between the causative and inchoative interpretation, and could mean either *I burned it* or *I burned*. The fact that these verbs are Overt Object verbs effectively eliminates the possibility of such ambiguity.

Membership in the Overt Object class retains, however, a significant lexical component, and cannot be entirely accounted for with a pragmatic principle that requires ambiguity to be avoided. The fact that prohibition of object drop is in part lexically determined is demonstrated by the fact that some verbs in subclass 2 do not have inchoative counterparts.³²

³² There appears to be variation across dialects as to which causative verbs have inchoative variants.

- (3.143) **N kpɛ-li *(i).**
 I cut-COMPL *(3so)
'I cut it.'

- (3.144) ***ɔ kpɛ-li.**
 It cut-COMPL
'It cut.'

Examples (3.143) and (3.144) demonstrate that the verb **kpɛ**, 'cut', prohibits object drop, even though dropping the object would not lead to ambiguity.

Subclass 3 of Overt Object verbs include **kan** 'feel, touch', **klo**, 'like', **si** 'know', **sro** 'fear', **wun** 'see'. This subclass contains psychological verbs, verbs of saying and verbs of perception. Example (3.145) demonstrates that these verbs cannot drop their object pronouns, even when those pronouns are clause final and refer to inanimates.

- | | |
|---|--|
| <p>(3.145) A wun-ni fluwa-'n?
 2ss see-COMPL paper-DEF
 <i>'Did you see the letter?'</i></p> | <p>Een, n wun-ni *(i).
 yes 1ss see-COMPL *(3so)
 <i>'Yes, I saw it.'</i></p> |
|---|--|

The generalization that seems to best unite this subclass is that verbs in this class select either an object (animate or inanimate) or a sentential complement, as shown in (3.146).

- (3.146) **N wun-ni kɛ Kofi kpɛ-li waka-'n.**
 1ss see-COMPL that Kofi cut-COMPL wood-DEF
'I saw-COMPL (noticed) that Kofi cut the wood.'

In addition to the verbs discussed above, Baule has a large number of bipartite verbs, consisting of a verb and a bound verb complement. The combination **yo...atɛ**, 'sell', is one such bipartite verb.

- (3.147) **Be yo-li i atɛ.**
 3ps make-COMPL 3so sale
'They sold it.'

Because of the bound verb complement, the object of this verb is never clause final and therefore can never be dropped. Such verbs are thus effectively Overt Object verbs. The constraints on object drop in Baule are very similar to those in operation in Akan.³³

³³ Akan shares with Baule the difference between Object Drop and Overt Object verbs. Like Baule, Akan requires Object Drop verbs to drop any third person singular objects that refer to animates and occur clause finally. Animacy alternations in Akan can be illustrated with the pair of examples used by Saah (1994) involving an Object Drop verb.

- | | |
|--|--|
| (i) Kofi amene.
Kofi PERF-swallow
'Kofi has swallowed it (<i>the piece of fried fish</i>).'
(Akan, Saah 1994, p. 100, fn. 7) | (ii) Kofi amene no.
Kofi PERF-swallow 3so
'Kofi has swallowed it (<i>the live fish</i>).'
(Akan, Saah 1994, p. 101, fn. 7) |
|--|--|

Saah (1994) states that (i) is appropriate in a case where Kofi eats a piece of fried fish and (ii) is appropriate in a case in which Kofi swallows a live fish as a trick. He identifies the relevant aspect of the inanimate fish as the fact that it has been processed. Saah (1994) emphasizes that only animals are subject to animacy changes. As in Baule, human beings in Akan are always animate, regardless if they are alive or deceased. Akan and Baule behave identically with respect to the constraint that requires Object Drop verbs to express their objects overtly when those objects are not clause final.

- | | |
|---|--|
| (v) mi-hu dua no seisei
I-HAB-see tree the now
'I see the tree now.'
(Akan, Boadi 1976, p. 3) | (vi) mi-hun no seisei
I-HAB-see it now
'I see it now.'
(Akan, Boadi 1976, p. 3) |
|---|--|

A final similarity between Akan and Baule involves subclass 2 Overt Object verbs. Akan has a subclass of Overt Object verbs comparable subclass 2 in Baule. Osam (1994) lists the following examples of verbs belonging to this class: **bo** 'break', **bu** 'break', **butuw** 'overturn', **hyew** 'burn', **koa** 'bend', **kyea** 'bend', **moa** 'crumple', **monkyem** 'crumple', **sɛɛ** 'destroy', **tɛn** 'straighten', **tɛw** 'tear', **yew** 'lose'. These verbs all express a change of state in their object if used transitively and in their subject if used intransitively. When no object pronoun is expressed overtly, these verbs have intransitive interpretations.

- | | |
|---|---|
| (vii) Kofi bɛ-hyew no.
Kofi FUT-burn 3so
'Kofi will burn it.'
(Akan, Osam 1994, p. 156, ex. 17b.) | (viii) Kofi bɛ-hyew.
Kofi FUT-burn 3so
*'Kofi will burn it.'/'Kofi will get burnt.'
(Akan, Osam 1994, p. 156, ex. 17c.) |
|---|---|

The difference between Baule and Akan is that Baule subclass 3 Overt Object verbs are Object Drop verbs in Akan.

- | | |
|---|---|
| (iii) Me huu no.
I saw him/her
'I saw him/her.'
(Akan, Saah 1992, p. 221, ex. 4a.) | (iv) Me huui
I saw it
'I saw it.'
(Akan, Saah 1992, p. 221, ex. 4b.) |
|---|---|

The suffix *-i* that appears on the verb in (iv) is not an object marker, but is rather suffix required to appear on clause-final verbs. The suffix bears low tone. It is realized as either *-i* or *-ɛ* depending on

3.5.2 *Account of standard object drop*

An elegant account of standard object drop can be formulated using the feature checking mechanism of the Minimalist Program. In particular, I use the framework of Bowers (2002) in which a transitivity projection, Tr, houses a probe with uninterpretable φ -features such as Person and Number. Checking of object agreement involves matching of features of this probe with the features of a goal (the direct object) and subsequent feature deletion under Agree, which also effects the valuation of the Case features associated with the goal. I propose that in Baule verbs differ from each other with respect to which φ -features are present in the Tr that selects them. Different combinations of φ -features constitute different parameter settings and will account for the range of object-drop behavior of Baule verbs. Further, I will assume that pronouns in Baule are simply bundles of φ -features (minimally containing one φ -feature) and that overt realization of pronouns is a reflex of feature checking.

I will follow Rizzi's (1986) account and propose that Baule null pronouns are licensed by a bipartite condition, such as the one I proposed for Norwegian null objects. Both a Formal Licensing Condition and an Identification Condition must be satisfied in order for a null pronoun to be licensed. I propose that in Baule the Formal Licensing Condition is always satisfied, and that it is the impossibility of also satisfying the Identification Condition that accounts for the fact that certain verbs cannot drop their objects.

the vowel of the verb stem. The clause-final high tone in Baule has a similar distribution as the *-i / -ε* suffix in Akan. Ascertaining the extent of this similarity is a task I leave to future investigation.

I would like to put forward that Formal Licensing Condition is inherently satisfied in Baule because object agreement of every Baule verb involves Animacy and Number features.³⁴ I propose Animacy and Number features in Baule are weak. If Animacy and Number features were strong in Baule, object agreement checking would always be forced to occur in the syntax resulting (under my assumption that overt pronouns are a reflex of feature checking) in pronouns that are always overt. If null pronouns are to exist in the language, it is necessary to assume that Animacy and Number features are weak. Under the system I propose, if the Identification Condition is fulfilled, then a null pronoun is possible and Animacy and Number feature checking can be delayed until LF. A central feature of my account is the assumption that Animacy and Number feature checking is forced take place in the syntax in cases in which the Identification Condition is not fulfilled in order that the pronoun surface with phonetic content.

The Identification Condition, I will assume, is fulfilled for those verbs whose object agreement includes an additional ϕ -feature. This feature is 'Noun Class' and restricts the object of the verb to membership in an abstract group of NPs designating semantically similar entities. Motivation for the existence of an abstract Noun Class features derives from the fact Baule exhibits evidence that noun classes existed at a previous stage of the language. Examination of a list of Baule nouns reveals that certain groups of semantically related nouns begin with the same prefix. Creissels and Kouadio N'Guessan (1977) point out, for example, that many nouns denoting liquids begin with an n-morpheme: **nme** 'palm wine', **nmie** 'urine', **nmoja** 'blood', **ngo** 'oil', **nvufle** 'sweat', **nzan** 'wine', **nzue** 'water'. Osam (1993, 1994) has noticed the

³⁴ This generalization will later be modified slightly in the discussion of null objects in Essential-Combination ESC.

same types of groups in Akan and has argued that these prefixes are remnants of a defunct noun class system. The evidence is parallel in Baule and the same conclusion can be drawn. My conjecture is that although the distinctive noun class morphology has nearly disappeared, noun class agreement is not defunct, but remains active on an abstract level and allows null objects to fulfill the Identification Condition.

In languages in which noun class is explicitly represented in the verbal morphology, the connection between checking of the Noun Class feature and object drop is quite clear. In her analysis of Navajo, Speas (1996) identifies so-called handling stem verbs as admitting genuine null objects.

- (3.148) **Kii yíjǎá.**
 Kii 3o.3s.carring:round:pl:O
 '*Kii is carrying them (round objects)*'

These stems classify their objects according to certain qualities; Speas (1996) lists size, shape, consistency and number (p. 194).

In Baule, a verb bears no morphological indication of the noun class requirement it imposes on its object. However, verbs do impose strong selectional restrictions on their objects in Baule. I would like to suggest that this strictness is a result of the fact that Noun Class agreement is necessary in Baule between (certain) verbs and their objects. Certain verbs impose strict restrictions on the kinds of objects they can be applied to. A particularly clear example of a verb that imposes a strict restriction on its object is the verb **nɔn**, 'drink', which must be used with an object that designates a liquid. As just mentioned, nouns denoting liquids exhibit signs of belonging to a single noun class that was originally associated with the **n-** prefix. The selectional restrictions imposed by **nɔn**, 'drink', are so strict that it is plausible that they are a result of object agreement with a noun of the **n-**prefix noun class. In English it is unusual to use the word drink with a non-liquid object because the concept clashes

with speakers' idea of how the world works. For the Baule speaker, this real-world mismatch is doubtlessly also a factor. I would like to argue that the real-world mismatch is actually grammatically encoded in Baule. It is unacceptable to use **nɔn**, 'drink', with a non-liquid object because such an object would not satisfy the object agreement features required by the verb.

- (3.149) ***N nɔn-ni kanni**.
 1ss drink-COMPL light
 Intended reading: '*I drank in the light.*'

In short, strict selectional restrictions in Baule provide evidence that supports the claim that noun class agreement is at work in the syntax of the language. It is noun class agreement that enables null pronoun to fulfill the Identification Condition.^{35, 36}

³⁵ Not all Object Drop verbs impose strict selectional restrictions such as **nɔn**, 'drink'. It should be noted that my claim is that Noun Class agreement in the current form of the language is an abstract feature and for this reason may not actually serve to divide nouns into mutually exclusive, semantically coherent groups. For my purposes it is adequate that Noun Class agreement constrain potential objects to whatever degree is sufficient to permit fulfillment of the Identification Condition.

³⁶ Positing a ϕ -feature 'Noun Class' present in the object agreement of some verbs, but absent with others provides a new perspective on polysemy among Baule verbs. Baule has many verbs that have two quite (according to native speakers) different meanings dependent on which type of object they are used with. For example, the verb **bo** means 'play' when applied to a musical instrument and 'beat' when applied to a human. Other examples of polysemous verbs include the verb **si**, which means 'pound' when its object designates an inanimate object and 'know' when its objects is a person or a fact. The verb **taka** means 'set down' when applied to an inanimate object and 'punish' when applied to a human. The verb **fa** usually means 'pick up' or 'take', but means 'resemble' when applied to a person. The verb **di** means 'eat' when applied to a foodstuff and 'have sexual relations with' when applied to a human. In each of these cases, the meaning variant occurring with the inanimate object is an Object Drop verb. Burmeister (1988) points out for Anyi that the presence or absence of an overt object pronoun effectively disambiguates the meanings of verbs (p. 89). Exactly the same observation applies to the case of Baule. I would like to attempt to formalize this insight with the conjecture that the difference between Baule verbs with the same surface form is that one variant has the ϕ -feature 'Noun Class' present in its object agreement, and the other does not. Under such an account, the **bo** variant meaning 'play' would have a lexical entry with the specification that its object agreement has the ϕ -feature 'Noun Class'. This ϕ -feature would have the effect of making the verb 'play'-**bo** compatible only with objects that traditionally serve as musical instruments. It would have the further effect of making it possible for the object of 'play'-**bo** to fulfill the Identification Condition. Indeed, 'play'-**bo** is an Object Drop verb. The other variant of **bo** does not have the ϕ -feature 'Noun Class' in its object agreement, does not impose such tight semantic restrictions on its object and is not an Object Drop verb.

The proposal is summarized in Table 3.3 which gives the parameterization associated with each Baule verb class.

Table 3.3 Baule verb classes: object agreement ϕ -features (preliminary)

	Example	Animacy/Number features	Noun Class features
Overt Drop verbs	di , 'eat'	weak	weak
Overt Object verbs	wun , 'see'	weak	missing

The picture of standard object drop in Baule, is, however, not yet complete. Recall that in Baule pronouns referring to animates (including all first and second person pronouns) and plural pronouns may never drop. I would like to relate this failure to drop to the way in which Noun Class agreement recovers reference. Noun Class agreement is able to recover information about the nature of the entity the null pronoun refers to (i.e. if it is a liquid, a foodstuff, a book or paper), but it cannot recover information concerning the person or the number of the referent. For this reason, Object Drop verbs cannot occur with null objects in the general case, but only in cases in which values for Animacy and Number features can also be recovered. I adopt the assumption made by Farrell (1990), who proposes that Identification obtains for null objects in Brazilian Portuguese because null objects are intrinsically specified to have a 'third person'-valued Person feature and a 'singular'-valued Number feature. I conjecture that Baule null objects can recover Animacy and Number features because they are assigned third person inanimate singular features by default. All other standard object pronouns need to be overt in order not to be associated with third person inanimate singular features.

The final component of my account involves the positional dependence of object drop in Baule. Standard null objects in Baule differ from standard null objects in other languages in that they are restricted to occurring in sentence final position. A plausible reason for this difference is that Noun Class agreement only serves to satisfy Identification for null objects when they can be localized in the surface string by a processing strategy. How the parser might effect such a localization in Baule is readily evident. Recall that in Baule, sentence final position has a unique characteristic. If the verb occurs sentence finally, it bears sentence final high tone, as shown in (3.140) (repeated).

- (3.140) **Bè tò-lí.**
 3ps buy-COMPL
 '*They bought it.*'

In Baule, Object Drop verbs never have alternative intransitive usages. Thus, for Object Drop verbs, sentence final high tone reliably signals the presence of a null object in the surface string. I posit that there is also a parsimony condition at work in Baule that dictates that whenever a pronoun can drop it must.

In sum, the difference between Object Drop verbs and Overt Object verbs in Baule can be neatly explained by an account that parameterizes verbs with respect to ϕ -features constituting object agreement. Overt Object verbs never permit object drop because they lack Noun Class agreement, the ϕ -feature that Object Drop verbs use to fulfill the Identification Condition.

3.5.3 *Constraints on reference of null pronouns in ESC and RSC*

The detailed treatment of standard null objects in Baule presented in the previous sections sets the stage for examination of the challenges facing an account of ESC that holds that all unexpressed arguments of V2 are null pronouns. In the ESC, null pronoun arguments of V2 with the same referents as arguments of V1 cannot

alternately be interpreted with extrasentential reference.³⁷ Example (3.2)' shows that a null object of V2 that refers to the same entity as an object of V1 does so necessarily.

- (3.2)' **ɔ to-li ofɛ_i di-li pro_{i/*k}**
 3ss buy-COMPL papaya_i ate-COMPL pro_{i/*k}
 'S/he bought a papaya and ate it (the papaya).'
 **'S/he bought a papaya and ate it (something else).'*

This reference constraint is problematic for the null-pronoun account of ESC since standard null objects in Baule are not subject to constraints on their reference. In overt coordination, a null pronoun in the second conjunct is not blocked from being interpreted with extrasentential reference.

- (3.150) **ɔ to-li ofɛ_i kpekun ɔ di-li pro_{i/k}**
 3ss buy-COMPL papaya_i and 3ss ate-COMPL pro_{i/k}
 'S/he bought a papaya and ate it (the papaya).'
 'S/he bought a papaya and ate it (something else).'

The contrast between ESC (3.2) and coordination (1.8) can be elicited using an appropriate context in which extrasentential reference is readily available. Such a context can be provided by a question such as the following.

- (3.151) Question: **ɔ di-li ofɛ-'n i mma-'n**
 3ss eat-COMPL papaya-DEF 3so seed.PL-DEF
 kɛ n kan-ni sa?
 that 1ss say-COMPL way
 'Did s/he eat the papaya seeds, like I said?'

Example (3.2)' is not an appropriate answer to this question, since it is an ESC and the null pronoun object of V2 must refer to the papaya and cannot refer to the seeds.

³⁷ The existence of this reference constraint in SVCs was pointed out for Ewe SVCs by Collins (1997a, p. 478).

The coordination in (3.150), on the other hand, can be used to express that the person involved bought a papaya and ate the seeds.

The argument-coupling reference constraint applies to both ESC involving Accidental Combinations of verbs, like (3.2)', as well as ESC involving Essential Combinations of verbs, like (3.).

- (3.152) N **fa-li** **bole'n_i** **man-ni** **Bernard** *pro_{i/*k}*
 1ss take-COMPL package-DEF_i give-COMPL Bernard *pro_{i/*k}*
 'No, I gave the packet to Bernard.'
 *'No, I picked up the packet and gave it (something else) to Bernard.'

The null pronoun subject of V2 in the ESC is also restricted in its reference.

- (3.153) I **ni_i** **to-li** **manda** *pro_{i/*k}* **di-li**
 3so mother_i buy-COMPL banana *pro_{i/*k}* ate-COMPL.
 'Her mother bought a banana and she (the mother) ate it.'
 *'Her mother bought a banana and she (someone else) ate it.'

Curiously, the reference constraint applies not only to null pronouns in ESC, but to overt pronouns as well, as demonstrated with (3.26) (repeated).

- (3.26) **ɔ** **to-li** **lomi_i** **yrɛ-li** **i_{i/*k}**
 3ss buy-COMPL orange_i burn-COMPL 3so_{i/*k}
 'S/he bought an orange and burned it (the orange).'
 *'S/he bought an orange and burned it (something else).'

Standard overt pronouns in Baule are not subject to such a constraint.

- (3.154) I **ni_i** **to-li** **manda** **kpekun** **ɔ_{i/k}** **di-li**.
 3so mother_i buy-COMPL banana and 3ss_{i/k} ate-COMPL
 'Yes, her mother bought a banana and she (the mother) ate it.'
 'Yes, her mother bought a banana and she (someone else) ate it.'

- (3.155) **ɔ** **to-li** **lomi_i** **kpekun** **yrɛ-li** **i_{i/k}**
 3ss buy-COMPL orange_i **kpekun** burn-COMPL 3so_{i/k}
 'S/he bought an orange and burned it (the orange).'
 'S/he bought an orange and burned it (something else).'

This fact can also be demonstrated for pronouns in sentential complements.

- (3.156) \mathfrak{O}_i nian-ni be k-' $\mathfrak{O}_{i/k}$ kpɛ waka-'n.
 3ss_i watch-COMPL 3so that-3ss_{i/k} cut wood-DEF
 'S/he_i watched them while s/he_{i/k} cut the wood.'

- (3.157) N niɛn-ni i_i k-' $\mathfrak{O}_{i/k}$ kpɛ waka-'n.
 1ss watch-COMPL 3so_i that-3ss_{i/k} cut wood-DEF
 'I watched him/her_i as s/he_{i/k} cut the wood.'

Additionally, reference constraints do not apply across consecutive sentences within a discourse. For this reason, it is not possible to conflate coupled pronouns in ESC with same-subject pronouns (cf. e.g. Finer 1985) that occur in switch reference languages.

We now turn to the RSC and the difference in interpretation between ESC and RSC mentioned in Section 3.1.3.1. This difference is that reference constraints on null objects (i.e. coupling effects) typical of Accidental-Combination ESC do not apply to Accidental-Combination RSC.

- (3.158) \mathfrak{O} to-li ofɛ_i \mathfrak{O} di-li pro_{i/k}
 3ss buy-COMPL papaya_i 3ss ate-COMPL
 'S/he bought a papaya and ate it (the papaya).'
 'S/he bought a papaya and ate it (something else).'

- (3.159) I ni_i to-li manda $\mathfrak{O}_{i/k}$ di-li.
 3so mother buy-COMPL banana 3ss_{i/k} ate-COMPL
 'Yes, her mother bought a banana and she (the daughter) ate it.'
 'Yes, her mother bought a banana and she (the mother) ate it.'

The reading in which pronominal argument of V2 has extrasentential reference is not the preferred reading, but is brought out distinctly when a pause is inserted between the clauses. When an RSC involves an Essential Combination of verbs, arguments of V2 are coupled to arguments of V1.

- (3.160) N fa-li bole'n_i man-ni n Bernard pro_{i/*k}
 1ss take-COMPL package-DEF_i give-COMPL 1ss Bernard pro_{i/*k}
 'No, I gave the packet to Bernard.'
 *'No, I picked up the packet and gave it (something else) to Bernard.'

There is no alternative interpretation available for Essential Combination RSC. The coupling effects observed in Baule are summarized Table 3.4.

Table 3.4 Summary of Coupling Effects

	Subject coupling	Object coupling
Accidental Combination ESC	Yes	Yes
Essential Combination ESC	Yes	Yes
Accidental Combination RSC	No	No
Essential Combination RSC	Yes	Yes
Accidental Combination standard coordination	No	No
Essential Combination standard coordination (unacceptable)	Not applicable	Not applicable

Table 3.4 invites a (yet descriptive) generalization concerning the status of the RSC. The RSC can be seen to be similar to the ESC in that it is compatible with Essential Combinations of verbs. The RSC can be seen to be similar to standard coordination in that it does not (necessarily) impose coupling effects. The RSC appears to have a certain dual status. The analysis presented in Chapter 4 will account for the coupling effects in Table 3.4 and will argue that that the dual status of RSC is a reflex of two underlying structures, an ESC-type structure inducing coupling effects and an overt coordination-type structure blocking them.

3.5.4 *Essential-Combination V2s display unexpected object patterns in simple sentences*

Another challenge for a null-pronoun account of ESC is the unpredicted patterns of object drop that arise with verbs that play the role of V2 in Essential-Combination ESC. Recall from Section 3.1.2 that the initial motivation that V2 of the ESC projects a

complete argument array into the syntax was the pair (3.17), a standard sentence with an Object Drop verb, and (3.3), an Accidental-Combination ESC in which that same verb is V2.

- (3.17) **Yao di (*i)**
 Yao eat (*3so)
'Yao eats it.'

- (3.3) **Be tra-li kangale-'n di-li (*i)**
 3ps catch-COMPL panther-DEF eat-COMPL (*3so)
'They caught the panther and ate it.'

A single phenomenon, object pro-drop, can be held responsible for the unexpressed object in both cases. The pair (3.3) and (3.17) provided initial motivation for a null pronoun account of ESC and the fact that unexpressed arguments in ESC are null pronouns was subsequently confirmed by the E-type reading test.

Pairs like (3.3) and (3.17) are characteristic of ESC involving Accidental Combinations of verbs. Essential Combinations of verbs display quite unexpected object patterns in simple sentences. Verbs used as V2 in Essential-Combination ESC cannot drop their objects in simple sentences. The pronoun object of an Essential-Combination V2 is never expressed overtly, even in cases otherwise requiring an overt pronoun in Baule. These unanticipated patterns are illustrated with examples in the following discussion.

Theme ESC involving Essential Combinations of verbs provide the most striking examples of verbs that take null objects when used as V2 in ESC, but not in simple sentences.

- (3.5) **Talua mun be yi-li Konan fite-li kuman nun.**
 girls DEF.PL 3ps move-COMPL Konan emerge-COMPL hole in
'The girls pulled Konan out of the hole.'

- (3.161) ***Talua mun be fite-li.**
 girls DEF.PL 3ps emerge-COMPL
 Intended reading: 'The girls extracted it.'

The unacceptability of (3.161) reflects the fact that **fite** does not project a direct object in a simple sentence.

- (3.162) ***Talua mun be fite-li Konan.**
 girls DEF.PL 3ps emerge-COMPL Konan
 Intended reading: 'The girls extracted Konan.'

- (3.163) ***Talua mun be fite-li i.**
 girls DEF.PL 3ps emerge-COMPL 3so
 Intended reading: 'The girls extracted him/her.'

Because of the ungrammaticality of (3.162), **fite** is standardly glossed 'emerge' and not 'extract', as (3.5) would motivate.³⁸

³⁸ Stewart (1963) points out that there are many verbs in Akan that have both transitive and intransitive variants.

- | | | |
|------|--|--|
| (i) | Intransitive
Toá nó álbɔ ʔ.
bottle DEF PERF.broke
'The bottle has broken.' | Transitive
Kofi álbɔ toá nó.
Kofi PERF.broke bottle DEF
'Kofi has broken the bottle.' |
| (ii) | Nwómá nó álhyé.
book DEF PERF.burnt
'The book has burnt.'
(Akan, Stewart 1963, p. 148) | Kofi áhye nwómá nó.
Kofi PERF.burnt book DEF
'Kofi burnt the book.' |

There are also verbs that have intransitive, but no transitive variants.

- | | | |
|-------|---|--|
| (ii) | Intransitive
Atadée ʔ nó sɛn dadewá só.
dress DEF hang nail on
'The dress is hanging on a nail.' | Transitive
*Kofi sɛnn atadée ʔ nó dadewá só.
Kofi hang dress DEF nail on
'Kofi hung the dress on a nail.' |
| (iii) | Nwómá nó álbá.
book DEF PERF.come
'The book has come.'
(Akan, Stewart 1963, p. 148.) | *Kofi ába nwómá nó.
Kofi PERF.come book DEF
'Kofi has brought (or sent) the book.' |

Stewart (1963) cites the following examples to support his position that SVCs are formed from the (otherwise unacceptable) transitive variants of the verbs in (iii) and (iv) in the usual manner.

Benefactive ESC in which V2 is **man**, 'give', is another case in which a null object is not possible in a simple sentence.

- (3.7) **Aya fa-li fluwa-'n man-ni mi.**
 Aya take-COMPL book-DEF give-COMPL 1so
 'Aya gave me the book.'

- (3.164) ***ɔ man-ni mi.**
 3ss give-COMPL 1so
 Intended reading: 'S/he gave me it.'

When used in a simple sentence, **man**, 'give', admits an overt direct object only if it is indefinite.

- (3.165) **ɔ man-ni mi fluwa.**
 3ss give-COMPL 1so paper
 'S/he gave me paper.'

An overt pronoun or a direct object marked with the definite, however, is not admitted.

- (3.166) ***ɔ man-ni mi i.**
 3ss give-COMPL 1so 3so
 Intended reading: 'S/he gave me him/her.'

-
- (iv) **Kofi de atadée º nó senn dadewá só.**
 Kofi take dress DEF hang nail on
 'Kofi hung the dress on the nail.'
 (Akan, Stewart 1963, p. 149)

- (v) **Kofi de nwómá nó álbá.**
 Kofi take book DEF PERF.come
 'Kofi brought the book.'
 (Akan, Stewart 1963, p. 149)

Stewart's (1963) position is evidently that there are transitive verbs in Akan that are restricted to appearing as V2 of a SVC. He states, "It will be seen that by this approach there is a subclass of verbs such as **si**, 'stand', **senn**, 'hang', **ba**, 'come, bring, send', which can be either intransitive or transitive, but which paradoxically never have a direct object even when transitive" (p. 149). My analysis of Baule ESC represents a revival of Stewart's (1963) account.

- (3.167) ***ɔ** **man-ni** **mi fluwa'n.**
 3ss give.COMPL 1so paper-DEF
 Intended reading: 'S/he gave me paper.'

Since pronouns are definite, the unacceptability of both these examples can presumably be accounted for by the definiteness restriction, which blocks certain verbs from taking definite-marked direct objects.³⁹

In Essential-Combination ESC, V2 never admits an overt pronoun direct object, even if this pronoun is animate, plural or first/second person, cases in which Baule otherwise requires an overt object.

- (3.168) **Talua mun be yi-li Konan kpekun**
 girls DEF.PL 3ps move-COMPL Konan and
be fite-li (*i) kuman nun.
 3ps emerge-COMPL (*3so) hole in
'The girls pulled Konan out and they exited the hole.'
- (3.169) **Talua mun b-'a kan nde mun a kle mi (*be)**
 girl DEF.PL 3ps-PERF say word PL.DEF PERF show me
'The girls have told me the pieces of news.'
- (3.170) **Aya fa-li mi man-ni Kofi (*mi).**
 Aya take-COMPL 1so give-COMPL Kofi (*1so)
'Aya gave me to Kofi.'

In short, a verb is used as V2 in Essential-Combination ESC never admits null-pronoun objects in simple sentences or overt-pronoun objects in ESC. This pattern is unanticipated under an account that holds that Baule has a single null object, the standard null object used in simple sentences such as (3.17). Once the possibility is considered that there are two sorts of null objects in Baule, a standard null object and a null object occurring only in Essential-Combination ESC, this pattern is not so

³⁹ One other ditransitive verb in Baule, **ce**, 'offer', also imposes such a definiteness restriction on its object. A parallel restriction exists in Akan (Stewart 1963).

surprising. In fact, the parameterization proposed above to account for the distribution of standard null objects actually predicts that there are other types of null objects in Baule. Recall that Formal Licensing of standard null objects in Baule was argued to involve the presence of Animacy and Number features. Recall that the distribution of standard null objects is derived by assuming the existence of a Noun Class feature that can either be present or absent in the bundle of φ -features constituting object agreement for a given verb. It would be expected that verbs also differ from each other as to whether their φ -feature bundles include Animacy and Number features. The possibility of variation along this dimension leads to the prediction that there should be additional types of verbs, and thus potentially additional types of null objects in Baule. I would like to argue that the null object pronouns of V2 in Essential-Combination ESC are just like standard null objects, except that they involve slightly different settings of the relevant parameters. These parameter settings explain why they do not occur in simple sentences and why they do not alternate with overt pronouns in Essential-Combination ESC. The following chart summarizes my account for standard object drop as well as the proposed extension accounting for null pronouns in Essential-Combination ESC.

Table 3.5 Baule verb classes: object agreement φ -features (final)

		Example	Animacy feature	Number feature	Noun Class feature
Overt Drop verbs		di , 'eat'	weak	weak	weak
Overt Object verbs		wun , 'see'	weak	weak	missing
V2s in Essential-Combination ESC	Otherwise intransitive verbs	fite , 'emerge'	missing	weak	missing
	Definiteness Restriction ditransitives	man , 'give'	weak	missing	missing
	Other ditransitives	kle , 'show'	weak	weak	weak

Recall that I assume that pronouns consist of a bundle of φ -features and must minimally contain one feature. A given pronoun is underspecified for features not included in its feature bundle. For instance, a pronoun could have an Animacy agreement feature, but be underspecified for Number and Noun Class. In this case, the pronoun would not be required to check Number and Noun Class and would be compatible with verbs that did not include these features in their object agreement feature bundle. I also assume that pronouns are overt in Baule when they have checked an agreement feature in the syntax.

Consider first verbs that are intransitive outside the ESC, like **fite**. These verbs can never take an object in a simple sentence. Under the proposed account this fact is derived from the defectiveness of their object agreement feature bundle, which is missing an Animacy feature, as indicated in Table 3.5. I assume that full NPs always have an Animacy feature that must be checked. Pronouns are the only NPs that (can optionally) lack an Animacy feature, and are therefore the only direct objects that

can be checked by verbs like **fite**. This assumption explains why **fite** can occur with a null pronoun object in the ESC/RSC.

The null object of **fite** fulfills the Formal Licensing Condition because the verb **fite** has weak Number features, which are checked at LF. The fact that **fite** takes a null object in the ESC but not in simple sentences will derive from the way in which the Identification Condition is fulfilled. I would like to argue that verbs like **fite** have no Noun Class feature, and therefore their null objects cannot fulfill the Identification Condition in the same way as standard null pronouns. Instead, they use a different mechanism which I call the Coupling Mechanism and will introduce and discuss in detail in Chapter 4. The formulation of the Coupling Mechanism guarantees that it serves to fulfill the Identification Condition only for null pronouns in second conjuncts (i.e. only for arguments of V2 in ESC/RSC and not in simple sentences.)

Now we turn to the case of ditransitive verbs that impose a definiteness restriction. In Baule, only nouns that are not marked as definite can be unspecified for number. There are two definiteness markers: **ni** for the singular and **mun** for the plural. A noun marked definite cannot be number ambiguous. I propose that **man**, 'give', is missing Number features (see Table 3.5) and for this reason cannot check agreement of a definite marked object. The only objects that **man**, 'give', can check are indefinites and pronouns, the two NPs that can be underspecified for number. It is the presence of a weak Animacy feature that allows **man**, 'give', to check an object at all. Animacy feature checking fulfills the Formal Licensing Condition on null objects and the Coupling Mechanism (see Chapter 4) fulfills the Identification Condition. The fact that **man**, 'give', does not have a Noun Class feature explains why it cannot be used with a null pronoun in a simple sentence.

- (3.171) ***N man-ni Kofi pro**
 1ss give-PAST Kofi
 Intended reading: 'I gave it to Kofi.'

The null object is excluded in (3.171) because the lack of a Noun Class feature prevents it from satisfying the Identification Condition.

Lastly, we turn to the case of ditransitive verbs imposing no definiteness restriction, such as **kle**, 'show'.

- (3.172) **Ba mun be kle-li Kofi be sua-'n.**
 child DEF.PL 3ps show-COMPL Kofi 3ps house-DEF
 'The children showed Kofi their house.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 152)

Because **kle**, 'show', imposes no definiteness restriction it can be concluded to have Number feature, in contrast to **man**, 'give'. Because it admits a direct object in a simple sentence it seems reasonable to assume it has an Animacy feature, in contrast to **fite**, 'emerge'. The verb **kle**, 'show', differs from other Essential Combination V2, however, in that it can drop its direct object in simple sentence.

- (3.173) **N kle-li Kofi.**
 1ss show-PAST Kofi
 'I showed Kofi it.'

This fact requires us to assume that **kle**, 'show', has Noun Class features. However, **kle**, 'show', displays a different pattern of behavior than Object Drop verbs, which I also claim have all of Animacy, Number and Noun Class features. The verb **kle**, 'show', cannot be used with an overt pronoun object when that pronoun object refers to a plural as in (3.169) (repeated.) Recall that plural pronouns are otherwise required to be overt in Baule.

- (3.169) **Talua mun b-'a kan nde mun a kle mi (*be)**
 girl DEF.PL 3ps-PERF say word PL.DEF PERF show me
 'The girls have told me the pieces of news.'

This constraint turns out to be a general prohibition on overt-pronoun direct objects for ditransitive verbs in Baule.

- (3.174) ***Kle** **mi** **be.**
 show.IMP 1so 3po
 Intended reading: '*Show me them.*'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 253)

Since a direct object pronoun is not admissible in (3.174), it is no surprise that no overt pronoun is possible in (3.169). The reason that the overt direct object pronoun is not admissible is not of direct concern in this discussion, but is probably related to prosodic constraints on the distribution of monosyllabic words discussed by Leben and Ahoua (1997).⁴⁰

3.5.5 Null subject of ESC is unexpected

The subject of V2 in Baule ESC has been shown to be a null pronoun, as illustrated in (3.1) (repeated).

- (3.1) ɔ to-li ofle *pro* di-li.
 3ss buy-COMPL papaya ate-COMPL
 '*S/he bought papaya and ate it.*' (Baule)

This null subject is rather unexpected since Baule does not generally admit null subjects. Example (3.175) shows that a null subject is unacceptable in a simple sentence and (3.47) (repeated) shows that a null subject is unacceptable in the second conjunct of a standard coordination construction.

- (3.175) **pro* di-li.
 ate-COMPL
 Intended reading: '*S/he ate it.*'

⁴⁰ Amani Bohoussou points out (p.c.) that disyllabic second person plural pronoun, **amun**, is also unacceptable in these contexts. In order for a prosodic account to go through, **amun** would have to be shown to be composed of two monosyllables **a** plus the definite plural **mun**. I leave such proof to future research.

- (3.47) ɔ to-li ofɛ kpɛkun *(ɔ) di-li (*i).
 3ss buy-COMPL papaya and *(3ss) ate-COMPL (*3so)
 'S/he bought papaya and ate it.' (Baule)

Like any other null pronoun, the null subject in ESC must fulfill the necessary licensing requirements. In Chapter 4, I will argue that the null subject of ESC uses the Coupling Mechanism to satisfy the Identification Condition, just like the V2-object of Essential-Combination ESC. I would like to propose that the null subject satisfies the Formal Licensing Condition due to the presence of the subject tone, illustrated by (3.11) (repeated).

- (3.11). Yàò `dí.
 Yao eat
 'Yao eats it.'
 (Baule, adapted from Creissels and Kouadio N'Guessan 1977, p. 191)

In Baule, no finite verb can surface without a subject tone, which encodes aspect information about the verb.

3.5.6 Section summary and outlook

In section 3.5, licensing of null pronouns in Baule has been discussed. It has been proposed that in addition to standard null objects, Baule has ESC/RSC-null objects that occur only in second conjuncts of Essential-Combination ESC and RSC. A parameterization of the three φ -features that I have claimed are involved with Baule object agreement yielded a system that accounts for how objects of Essential-Combination V2 satisfy the Formal Licensing condition. Null subjects in Baule ESC fulfill the Formal Licensing condition inherently by virtue of the subject tone that obligatorily precedes a finite verb in Baule. My claim is that Baule null pronouns occurring only in ESC satisfy the Identification Condition because they are located in second conjuncts of coordinations. This licensing mechanism will be formalized as the Coupling Mechanism in Chapter 4. At this juncture, it is already instructive to

anticipate the content of the Coupling Mechanism. Consider again Table 3.4 (repeated), which summarizes the coupling effects at work in Baule.

Table 3.4 Summary of Coupling Effects

	Subject coupling	Object coupling
Accidental Combination ESC	Yes	Yes
Essential Combination ESC	Yes	Yes
Accidental Combination RSC	No	No
Essential Combination RSC	Yes	Yes
Accidental Combination standard coordination	No	No
Essential Combination standard coordination (unacceptable)	Not applicable	Not applicable

It is noteworthy that constructions involving Essential-Combination verb pairs either demonstrate coupling effects (Essential-Combination ESC, Essential-Combination RSC) or they are unacceptable (Essential-Combination standard coordination). Apparently, the null pronouns that occur in ESC/RSC (but not otherwise in Baule) are required to be referentially coupled. This requirement suggests there is a link between referential coupling and licensing of null pronouns that occur in Essential-Combination ESC/RSC. Under such a view, the unacceptability of standard coordination of Essential-Combination verb pairs can be attributed to the failure of standard coordination to provide the appropriate conditions for coupling effects. In Chapter 4, I argue that the appropriate conditions

for coupling effects are structural and develop these conditions in detail in my presentation of the Coupling Mechanism.

3.6 Chapter summary

In this chapter, I have presented data demonstrating the behavior of Baule sentences containing multiple finite verbs, identifying three constructions which are all varieties of coordination: the Empty Subject Construction (ESC), the Resumed Subject Construction (RSC) and standard coordination. I have shown that unexpressed arguments in these constructions can always be analyzed as null pronouns. The decisive piece of evidence is that all unexpressed arguments receive E-type readings when associated with an appropriate quantified NP. The preliminary structure proposed coordinates two TPs and avoids c-command between arguments of V1 and arguments of V2, which would exclude the possibility of E-type readings. I have developed an account of null pronoun licensing in Baule that requires satisfaction of both a Formal Licensing Condition and an Identification Condition. Standard null objects in Baule satisfy these conditions using only φ -features present in their object agreement. Null objects occurring in Essential Combination ESC/RSC prove to be more challenging to account for. These null objects resemble Norwegian empty objects in that they cannot occur outside of second conjuncts. I propose that Essential-Combination null objects satisfy the Formal Licensing Condition using φ -features, but use the Coupling Mechanism (to be developed in Chapter 4) to satisfy Identification. The Coupling Mechanism accounts for referential coupling effects in Baule and explains why null subjects occur only in ESC and Essential-Combination null objects occur only in ESC/RSC.

CHAPTER FOUR

ACCOUNT OF NULL PRONOUNS IN EOC AND ESC

The preceding two chapters presented data from the Norwegian Empty Object Construction (EOC), (4.1), and the Baule Empty Subject Construction (ESC), (4.2).

- (4.1) = (2.1) **Han skrev et brev_i og sendte *pro*_{i/*m} til England.**⁴¹
 he write.PAST a letter_i and send.PAST *pro*_{i/*m} to England
 'He wrote a letter and sent (it) to England.'
 (Norwegian EOC, Creider 1986, p. 11, ex. 48a.)

- (4.2) = (3.5) **Talua mun_k be yi-li Konan_i**
 girls DEF,PL_k 3ps move-COMPL Konan_i
 ***pro*_{k/*n} fite-li *pro*_{i/*m} kuman nun.**
 ***pro*_{k/*n} extract-PAST *pro*_{i/*m} hole in**
 'The girls pulled Konan out of the hole.' (Baule ESC)

In these constructions, which were both argued to be coordination, the first verb (V1) overtly expresses its complete argument array, but the second verb (V2) apparently leaves one or more arguments unexpressed. In both cases, the unexpressed arguments of V2 have been shown to be null pronouns. The Norwegian EOC involves a null object, indicated by *pro* (4.1). The Baule ESC involves both a null object and a null subject, indicated *pro* in (4.2).

These null pronouns are not canonical null pronouns, however. Rather, they are 'referentially coupled', that is to say, constrained in their reference in such a way

⁴¹ Here I depict the null pronoun as occupying the same position occupied by the overt pronoun with which it alternates. In the analysis that follows I argue that *pro* precedes the verb, as shown in (i).

- (i) **Han skrev et brev_i og *pro*_{i/*m} sendte til England**
 he write.PAST a letter_i and *pro*_{i/*m} send.PAST to England
 'He wrote a letter and sent (it) to England.'

that they must be interpreted as referring to the same entity or entities that a particular argument of V1 refers to⁴². Referential coupling is not limited to null pronouns. Example (4.3) shows that overt pronouns in Baule ESC can be coupled as well.

(4.3) = (3.26) ɔ **to-li** **lomi_i** **yrɛ-li** **i_{i/*m}**
 3ss buy-COMPL orange burn-COMPL 3so
 'S/he bought an orange and burned it.'
 (Baule ESC)

In this chapter, a proposal is developed that accounts for the existence and the behavior of the null pronouns in (4.1) and (4.2) and of the overt pronoun that occurs in (4.3). A *Coupling Mechanism* is developed which encodes how arguments of V2 are related to arguments of V1. In Norwegian, the Coupling Mechanism makes it possible for null objects in the EOC to satisfy the Identification Condition. In Baule, the Coupling Mechanism is involved in satisfying the Identification Condition for null subjects in all types of ESC and also for null objects in Essential-Combination ESC/RSC. Null objects of Accidental-Combination ESC are also assigned their reference via the Coupling Mechanism, although they satisfy the Identification Condition as standard null objects. I will argue that in Baule the Coupling Mechanism is the default form of pronoun interpretation and must be applied wherever possible. The Coupling Mechanism accounts for the fact that null pronouns in both Norwegian EOC and Baule ESC have only a single possibility for the construal of their reference. After the discussion of the Coupling Mechanism, refinements of the preliminary structures for EOC and ESC/RSC, which were presented in Chapters 2 and 3, are developed.

⁴² In case that argument is a quantified NP, I follow Evans (1980) and assume the pronoun refers to the set of entities that verify the clause containing the quantified NP.

4.1 The Coupling Mechanism

4.1.1 *Reference recovery via definite description*

The basic tenet of the account to be developed in this section is that null pronouns in Norwegian EOC and Baule ESC are restricted in their distribution and reference because they satisfy the Identification Condition not using rich agreement like standard null pronouns, but rather via a special mechanism. This mechanism, called the *Coupling Mechanism*, makes it possible for null pronouns to fix their reference, thus recovering content and satisfying the Identification Condition. In order to satisfactorily explain the distribution and interpretation of null pronouns in Norwegian EOC and Baule ESC, the Coupling Mechanism must meet two specifications. First, it must derive the coupling effect, namely, the fact that these pronouns do not refer freely, but are interpreted with one reference possibility only. Second, it must account for the constraints on the distribution of these null pronouns, in other words, explain why they cannot occur in simple sentences.

With regard to the first specification, a preliminary observation can be made that will aid the formulation of the analysis. The Coupling Mechanism cannot involve merely recovery of φ -features if it is to successfully derive the coupling effect. A null pronoun that recovers φ -features uses those φ -features to establish reference. Its linguistic antecedent or the discourse entity it refers to must not be inconsistent with those φ -features, but is not otherwise limited. A null pronoun that has recovered φ -features by association with rich agreement contributes the same information toward the Identification of its referent as its overt counterpart and generally enjoys the same reference possibilities. Such a null pronoun is what I refer to as a standard null pronoun. The reference possibilities of a null pronoun argument of V2 in EOC/ESC, however, are constrained to a unique referent. For this

reason, it is possible to conclude that the Identification Condition on coupled objects of EOC is not accomplished through the recovery of φ -features.

The coupled pronouns in Norwegian EOC and Baule ESC actually appear to have more in common with traces and variables than they do with null pronouns that fulfill Identification via φ -feature recovery. Traces are identified by being bound by an antecedent in an A'-position. Identification by way of c-commanding antecedent is more direct than Identification via φ -feature recovery. A c-commanding antecedent associates the empty category with a unique linguistic element and not just the φ -features needed to calculate a referent. In the case of a quantifier binding a variable, the quantifier provides a range, which consists of a group of entities that the variable varies over. A trace or a variable resembles a coupled pronoun in that it has a unique antecedent and cannot be interpreted as associated with an alternate referent.

The similarity between traces and variables on the one hand and coupled pronouns on the other is rather unexpected since coupled pronouns are clearly not licensed by a c-commanding antecedent. The fact that pronoun arguments of V2 receive E-type readings when they are associated with quantified arguments of V1 demonstrates that arguments of V1 do not c-command the arguments of V2 with which they stand in a coupling relationship. In the preceding chapters, structures have been proposed for Norwegian EOC and Baule ESC in which the coupled pronoun arguments of V2 are not c-commanded by arguments of V1. The link between coupled pronoun arguments of V2 and arguments of V1 is thus similar to the link between trace and antecedent, but must be established via a different mechanism, due to the lack of the necessary c-command configuration.

The second specification, namely, that the Coupling Mechanism derive the distribution of coupled object pronouns, also suggests a clear direction for the account to follow. Creider (1986) and den Dikken (1991) note that the fact that Norwegian is not a *pro*-drop language makes it difficult to argue that the empty object in EOC is *pro*. The conclusion of Åfarli and Creider (1987) is that the empty object is a 'noncore' null object (p. 344). In Baule, Accidental-Combination ESC involves null objects that appear outside of ESC and thus pose no problem for a null pronoun ESC account. However, some null pronouns are limited to occurring in ESC and can never occur in simple sentences. Baule is not a subject drop language, yet the subject of V2 in ESC can be demonstrated to be a null pronoun. A verb that occurs as V2 in Essential-Combination ESC can never take a null object when it occurs outside ESC. The fact that these null pronouns only occur in second conjuncts of EOC/ESC/RSC suggests that it is the presence of the first conjunct that is the critical factor involved in the Coupling Mechanism.

The Coupling Mechanism formalizes these observations into an interpretational algorithm that simultaneously accounts for the fact that they show reference constraints (i.e. coupling effects) and for the fact that null pronouns in EOC/ESC/RSC must occur in second conjuncts. I propose that the reference of a coupled pronoun in the EOC/ESC/RSC is fixed by a definite description that is constructed from the first conjunct of the EOC/ESC/RSC. The proposal is illustrated with a Baule ESC from Chapter 3.

(4.4) = (3.2) ɔ to-li oflɛ *pro*_{subject} di-li *pro*_{object}
 3ss buy-COMPL papaya ate-COMPL
 'S/he bought papaya and ate it.'
 (Baule ESC)

There are two coupled pronouns in this example, the subject and the object of V2, marked **pro**_{subject} and **pro**_{object}. The object is used to illustrate the mechanism that makes it possible to recover the referent of these pronouns.

(4.5) **She bought papaya and she ate [the papaya that she bought]**

The definite description **[the papaya that she bought]** is constructed from the clause **ᵀ to-li ofle**, '*She bought papaya*', which is the first conjunct of the ESC. I refer to the clause used to construct the definite description as the *antecedent clause*. This definite description is then evaluated to determine its discourse referent. The discourse referent of the definite description is interpreted to be the discourse referent of the pronoun.

It is important to note that the Coupling Mechanism is an interpretation procedure and is discourse mediated. In other words, the first conjunct introduces a discourse referent, and this discourse referent is picked out again from the discourse context by the coupled pronoun. The relationship between two arguments that participate in a coupling relationship must be set apart from the relationship of variable binding. Consider the example in (4.6).

(4.6) **[No boy]_i put candy in his_i pockets.**

In this example, the pronoun **his** acts as a variable bound by the quantified NP **no boy**. This relationship is not discourse mediated. It is not possible to identify a boy in the discourse context who can be interpreted as the possessor of pockets into which candy was put.

I carefully avoid calling the representation in (4.5) a paraphrase. Instead (4.5) is a visualization of the procedure applied to interpret the ESC in (4.4). The representation in (4.5) is not a paraphrase because it has more interpretations than the ESC in (4.4). There are at least two dimensions along which the additional

interpretations are possible for (4.5). First, (4.5) admits ambiguity in the reference of the subject of the definite description. It could be the case that the papaya was bought by one woman and eaten by another. In this case, it would be possible to use the sentence in (4.5).

(4.5)' **She_i bought papaya and she_i ate [the papaya that she_k bought].**

The interpretation represented in (4.5)' is not a possible interpretation of the ESC in (4.4). The subject of the definite description is required to refer to the same individual as the subject of the first conjunct. Second, (4.5) admits ambiguity in the temporal index of the definite description. In (4.5), buying events can be associated with two different moments in time and consequently the papaya bought can be interpreted to be a different papaya than that eaten.

(4.5)' **She bought papaya (this morning)
and ate the papaya that she bought (yesterday)**

The ESC in (4.4) has no ambiguity of this sort. The papaya that was eaten is the papaya that was bought at exactly the same time point as the papaya mentioned in the first conjunct. In short, the difference between (4.5) considered as a paraphrase and (4.5) considered as a representation is that latter has a constrained interpretation. I will assume that the definite description in the representation in (4.5) is supplemented by an index that forces its subject to be co-referent with the subject of the ESC and a temporal variable that is co-indexed with the time of the first conjunct. The representations that I write implicitly contain these constraints and should not be considered paraphrases.

4.1.2 Constraints on Coupling Mechanism: Ambiguity Prohibition and Matching Constraint

Thus far, it has been proposed that the Coupling Mechanism consists of a procedure that constructs a definite description from the initial conjunct and uses it to fix the reference of the coupled pronouns in the non-initial conjunct. It is clear that the Coupling Mechanism must be more constrained than this simple formulation. If the Coupling Mechanism consisted only of the construction of a definite description from a relative clause, it would over-generate interpretations for EOC/ESC.

Constraints on the Coupling Mechanism will now be developed.

I propose that the Coupling Mechanism fails if more than a single admissible description can be constructed from the initial conjunct to identify a given coupled pronoun. I formulate this requirement as the *Ambiguity Prohibition*. If multiple definite descriptions are available to fix the reference of the coupled pronoun, the Coupling Mechanism cannot be applied. In the case of Norwegian, failure of the Coupling Mechanism means that the null object does not fulfill the Identification Condition and is not permitted. In case of Baule, failure of the Coupling Mechanism means that either the pronoun must be interpreted as a standard pronoun and will have multiple reference possibilities, or that the ESC is unacceptable because the null arguments of V2 cannot be licensed. The Ambiguity Prohibition finds its motivation in the empirical fact that a null pronoun in EOC/ESC has only one possibility for reference. Therefore, it cannot be the case that multiple definite descriptions can be used to fix the reference of a single pronoun. Later in the discussion I will present an example that further supports the existence of the Ambiguity Prohibition.

Without additional constraints, however, the Ambiguity Prohibition is too strong. It is clear that there is another factor at work, since not all cases where multiple

definite descriptions can be constructed are unacceptable. Consider the representation in (4.5) (repeated here).

(4.5) **She bought papaya and she ate [the papaya that she bought]**

In addition to the definite description **[the papaya that she bought]** it is also possible to construct another definite description from the initial conjunct, namely **[the person who bought the papaya]**. In fact, these two different definite descriptions are necessary for the interpretation of (4.4), one to identify the subject and one to identify the object. The full representation of the interpretation of (4.4) is given in (4.7).

(4.7) **She bought papaya
and [the person who bought papaya] ate [the papaya that she bought]**

In general, as many definite descriptions can be constructed from the initial conjunct as its verb has arguments. Both coupled pronouns in (4.4) have a choice between two definite descriptions that can be constructed from the initial conjunct, yet the example does not run afoul of the Ambiguity Prohibition. I would like to propose that the effects of the Ambiguity Prohibition are limited due to the existence of a *Matching Constraint*. This Matching Constraint insures that **[the papaya that she bought]** is admissible to fix the reference of the coupled object pronoun and that **[the person who bought the papaya]** is not admissible.

In order to identify the basis for the Matching Constraint it is informative to consider the fact that the definite description used for Identification of a coupled subject pronoun and the one used for Identification of an object coupled pronoun can never be interchanged. In other words, it is not possible that (4.4) is interpreted using (4.8).

- (4.8) **She bought papaya**
and [the papaya that she bought] ate [the person who bought papaya]

This fact indicates that the constraint on the construction of the definite description must be such that it prevents swapping of reference between the coupled subject and the coupled object. I propose that there exists a Matching Constraint that limits which of the definite descriptions that the first conjunct yields is admissible for Identification of the coupled pronoun in the second conjunct.

Baule provides an initial idea of how such a Matching Constraint can be implemented. Consider the representation in (4.8), in which the two definite descriptions have been swapped. This representation is not admissible because **papaya** is not animate and is difficult to use metaphorically as an animate and thus does not fulfill the selectional restrictions of the subject of the verb **eat**, since it does not qualify as a potential 'eater'.⁴³

- (4.9) ***Ofɛ di-li.**
 papaya eat-COMPL
 Intended reading: *'The papaya ate it.'*

It appears that selectional restrictions are a likely candidate for the source of the effects that comprise the Matching Constraint.

Another Baule example, already mentioned in Chapter 3, immediately reveals that selectional restrictions do not provide an adequate basis for the Matching Constraint.

⁴³ Many verbs in Baule requiring an animate subject cannot take an inanimate subject, even if that subject can easily be considered animate in a metaphoric way.

- (i) ***Kɔŋɣɛ-n mɛn awlo'n.**
 darkness-DEF swallowed house-DEF
 Intended reading: *'Darkness swallowed the house.'*

(4.10) = (3.3) **Be tra-li kangale-'n *pro*_{subject} di-li *pro*_{object}**
 3ps catch-COMPL panther-DEF eat-COMPL
'They caught the panther and ate it.'
 (Baule ESC)

In this example, both the subject and the object of V1 are animate. For this reason, it should be possible to swap the definite descriptions identifying the reference of the coupled pronouns, as in (4.11), without violating selectional restrictions.

(4.11) **They caught the panther and**
[the panther that the people caught] ate [the people who caught the panther]

Such a swap does not, however, reflect the interpretation of (4.10), which is exclusively *'They caught the panther and ate it (the panther).'*

A better candidate for the source of the Matching Constraint suggests itself straight away, however. The subject of **di** must be an agent, meaning that the entity it refers to must be a volitional entity. The definite description **[the panther that the people caught]** does not refer to a volitional entity. By virtue of having been caught, an entity loses its discourse status as volitional. The definite description **[the people who caught the panther]** picks out an entity that is clearly volitional because it has engaged in the act of catching a panther.

Critically, when I claim that an entity is volitional, I am claiming it has the status of a volitional discourse referent. Overt pronouns are not sensitive to the volitional status of a discourse entity. Consider the following coordination.

(4.12) **Be tra-li kangale-'n kpɛkun ɔ di-li be.**
 3ps catch-COMPL panther-DEF and 3ss eat-COMPL 3po
'They caught the panther and it ate them.'
 (Baule standard coordination)

In this coordination, the overt pronoun object of V2, **be**, refers to a non-volitional entity. This pronoun can be interpreted as co-referent with the subject of the first conjunct. My claim is that overt pronouns bear person and number features, but not

volitionality or non-volitionality features. Null pronoun arguments of V2 in ESC are sensitive to the volitionality of discourse entities because the definite descriptions that they use to satisfy Identification encode volitionality.

In sum, the Matching Constraint formalizes the requirement that the definite description that is constructed to fix the reference of null pronoun used as the agentive subject of V2 must pick out a referent that refers to a volitional entity. In parallel, a definite description that is constructed to fix the reference of a non-agentive argument is required by the matrix verb to pick out a referent that is a non-volitional entity.

Now that the existence and the source of the Matching Constraint have been established, we can return to consider evidence for the existence of the Ambiguity Prohibition. Recall that the ESC can only be interpreted as involving actions purposefully undertaken, as shown by the following example.

- (4.13) = (3.91) **Aya sa nzue wutu i.**
 Aya draws water spills 3so
 '*Aya draws water and spills it (on purpose).*'
 (Baule ESC)

If the verb **wutu** were to be interpreted as having a subject that is non-volitional, then the definite description [**the water that Aya draws**] would be admitted to identify either the coupled subject or the coupled object of **wutu**, 'spill.' Example (4.13) would have two potential representations, as illustrated in (4.14).

- (4.14) a. **Aya draws water**
 and [*the person who draws the water*] spills [*the water Aya draws*]
 b. **Aya draws water**
 and [*the water that Aya draws*] spills [*the water Aya draws*]

An ESC that admits two paraphrases is unacceptable under the Ambiguity Prohibition. The only possibility open in (4.13) is for **wutu**, 'spill' to be interpreted as

volitional. In this case, (4.14)b. is not an admissible paraphrase because [**the water that Aya draws**] does not pick out a volitional entity and therefore does not match the selectional restrictions on the subject of (the volitional variant of) **wutu**, 'spill.' It is because it is necessary to insure that there is only one possible paraphrase that the verb **wutu**, 'spill' must be interpreted to be agentive in (4.13).⁴⁴ The non-agentive 'spill' cannot be used as V2 in the ESC since its arguments cannot use the Coupling Mechanism.

In sum, the Ambiguity Prohibition has the effect of requiring that there is a clear match of volitionality or non-volitionality between the referent picked out by the definite description and the selectional requirements of V2. The Ambiguity Prohibition also resolves an intriguing constraint on the EOC/ESC. Den Dikken (1991) advances an important criticism of accounts that hold that the empty object of the EOC or SVC is a null pronoun. He points out that when V2 is a triadic verb, it is always the Theme argument that is the coupled argument. This observation also has been made by Baker (1989) for SVCs. The constraint applies to the Baule ESC, as well.

- (4.15) **Aya fle-li Kofi_i mɛn-ni i_{i/k} sika.**
 Aya call-COMPL Kofi_i give-COMPL 3so_{i/k} money
 'Aya called Kofi and gave him (Kofi) money.'
 'Aya called Kofi and gave him (someone else) money.'

⁴⁴ Note that in ESCs that do not involve object sharing it is not necessary for there to be an agentive subject.

- (i) **Veri-'n to-li bo-li.**
 Glass-DEF fell-COMPL broke-COMPL
 'The glass fell and broke.'
 (Baule ESC)

The reason is quite straightforward. There is no need for entity picked out by the definite description to match the volitionality requirements of V2, since there can be no ambiguity about which definite description should be used to identify the pronouns. Because the first conjunct only has a single argument, only a single definite description can be constructed from it.

In this example, it is possible to interpret the indirect object pronoun, which is a Benefactive argument of V2, as referring to the object of V1. This pronoun is, however, not a coupled pronoun since it can also be construed with extrasentential reference. The proposal I am advancing here throws light on why Benefactive arguments are never referentially coupled. A pronominal Benefactive can never have its reference fixed via the Coupling Mechanism since it does not refer to an entity that has either clear volitional discourse status or clear non-volitional discourse status. Neither definite description that can be constructed from the first conjunct of (4.15), in other words, neither **[the person Aya called]** or **[the person who called Kofi]**, provides a particularly clear, unique, fit for the Benefactive argument. The Benefactive pronoun therefore must establish its reference in the same way that a standard pronoun would and is not referentially coupled.

Evidence from Norwegian EOC also supports my proposal that the constraint on the construction of definite descriptions derives from a Matching Constraint involving volitional/non-volitional discourse status of referents. Recall that V1 of the Norwegian EOC can only be a verb of obtaining, namely, a verb with an agentive subject which denotes an act of taking an object into possession or control. An act involving taking into control unambiguously deprives an entity of volition. As a result of having been referred to by the object of a verb of obtaining, a discourse entity receives clear status as non-volitional. Norwegian EOC always uses a verb of obtaining as the first verb in the EOC since such verbs provide the sharp contrast in volitionality between the subject and the object necessary to cleanly recover the identity of the object. Recall the following example from Chapter 2.

(4.16) = (2.52) **Jeg kjente boken og kjøpte *(den) til Marit.**
 I know.PAST book.DEF and buy.PAST *(it) for Marit
'I knew the book and bought it for Marit.'
 (Norwegian)

Under my account, this example is not a possible EOC because both of the definite descriptions that can be constructed from the first conjunct, **[the book that I know]** and **[the person who knows the book]** are non-volitional. Both of these definite descriptions are admissible to fix the reference of the coupled object, which must refer to a non-volitional entity. The sentence is thus unacceptable as an EOC due to the Ambiguity Prohibition. If volitionality did not play a role in the Coupling Mechanism and thereby in Identification of empty objects in Norwegian, it would be necessary to provide another explanation for the fact that (4.16) cannot be an EOC. Additionally, it appears in Norwegian that the requirement that coupled objects be Themes is not inviolable. One of the examples from Western's list cited by Creider (1986) involves an empty object that is a Benefactive.

(4.17) **Nu tar jeg to mand og gir frie hænder.**
 now take I two man and give free hand.PL
'Now I take two men and give (them) free hands.'
 (Norwegian, Creider 1986, Appendix A, cited from Bojer)

This example should not be considered a central example of an EOC. Den Dikken (1991) points out in a footnote that it is not acceptable in contemporary Norwegian. What the example does show, however, is that the restriction to Theme sharing is a gray area. Such a gray area is to be expected if the licensing of empty objects involves building definite descriptions and evaluating unambiguous matches. Such a gray area is not expected if referential coupling in the EOC involves syntactic argument sharing or other purely structural considerations.

The Ambiguity Prohibition serves to explain two further facts about Baule. First, it accounts for the fact that in Baule both conjuncts of the ESC are required to have the same subject.

- (4.18) = (3.49) ***Aya fa-li** **fluwa-'n** **Akisi man-ni** **mi.**
 Aya take-COMPL book-DEF Akisi give-COMPL 1so
 Intended reading: 'Aya picked up the book and Akisi gave it to me.'

According to my proposal, (4.18) would be represented as (4.19).

- (4.19) **Aya picked up the book and Akisi gave me [the book she picked up]**

Recall that such representations are not paraphrases since they contain referential restrictions. In particular, the subject of the definite description **she** cannot have an extrasentential referent. Effectively then, (4.19) contains two potential definite descriptions that can be used to fix the reference of the coupled pronoun.

- (4.20) a. **Aya_i picked up the book and Akisi_k gave me [the book she_i picked up]**
 b. **Aya_i picked up the book and Akisi_k gave me [the book she_k picked up]**

In the first representation, the subject of the definite description is co-referential with the subject of the first conjunct and in the second representation, with the second conjunct. A Baule ESC example with two subjects therefore fails to be acceptable because it violates the Ambiguity Prohibition. Second, the Ambiguity Prohibition accounts for the fact that the two conjuncts of ESC are required to be compatible in tense/aspect. Recall that cases of mismatched tense/aspect are generally wrong.

- (4.21) = (3.58) ***Be tra-li** **kpɛma wa di.**
 3ps catch-COMPL agouti FUT eat
 Intended reading: 'They caught an agouti and they will eat it.'

I would like to put forward that (4.21) is unacceptable because there is no unique definite description that the object of V2 can use to fix its reference. Rather, there are two definite descriptions available that differ in their temporal index.

- (4.22) a. They caught_{t=1} an agouti and they will eat_{t=2} [the agouti they caught_{t=1}]
 b. They caught_{t=1} an agouti and they will eat_{t=2} [the agouti they caught_{t=2}]⁴⁵

The availability of two definite descriptions means that the Ambiguity Prohibition is not upheld and the null pronouns cannot be licensed.

Summarizing, the proposed Coupling Mechanism is responsible for satisfying the Identification Condition for null subjects in Baule ESC and for null objects in both Norwegian EOC and Baule Essential-Combination ESC. The Coupling Mechanism is also the source of coupling effects, constraints on reference of pronoun arguments of V2 in EOC/ESC. The Coupling Mechanism constructs a definite description from an antecedent clause that is first conjunct of the ESC/EOC. This definite description picks out an entity in the discourse, which is fixed as the referent of the null pronoun. The definite description used to satisfy Identification for the null pronoun must fulfill a Matching Constraint. If a *volitional* entity is required by the verb of which the null pronoun is an argument, the definite description must be one that refers to an entity that has *volitional* status within the discourse. If a *non-volitional* entity is required by the verb, the definite description must be one that refers to a *non-volitional* entity within the discourse. The Matching Constraint helps insure that it is possible to formulate a unique definite description. The Ambiguity Prohibition encodes the requirement of uniqueness. If there is no possibility for the construction of unique definite descriptions, then the sentence fails to be interpretable. The main

⁴⁵ Recall from Chapter 3 that the requirement of tense/aspect matching is not an absolute.

- (i) **ɔ su fa tanni ɔ man Kouadio.**
 3ss PROG take cloth 3ss give-INT Kouadio.
 '*He is giving the cloth to Kouadio.*'
 (Baule, Creissels and Kouadio 1977, p. 420)

The combination **V1 progressive + V2 intentional** is admitted in ESC. I would like to propose that cases in which tense/aspect-mismatch is permitted are cases in which only one temporal index is present and as a result only one definite description can be formulated. This proposal requires the rather uncontroversial assumption that the intentional does not introduce its own temporal index.

case in which such failure occurs is the case in which the verbs involved in the ESC/EOC do not have clearly agentive subjects and clearly non-volitional objects. Such examples are unacceptable.

The proposed Coupling Mechanism fulfills the specifications set out above. First, the Coupling Mechanism offers a straightforward account of why it is not possible to interpret a coupled pronoun in Norwegian EOC or Baule ESC with alternate extrasentential reference. The coupled pronoun has one and only one referent since its referent is identified by a unique definite description. The coupled pronoun is interpreted as referring to the same discourse entity as an argument of V1 since the definite description is built from the conjunct containing V1. It is impossible for a definite description built from an antecedent clause to pick out an entity not referred to by an argument of the antecedent clause. Second, it accounts for the fact that null subjects in Baule ESC and null objects in Norwegian EOC and in Essential-Combination ESC appear only in second conjuncts. In order for the Coupling Mechanism to function, it must have access to an antecedent clause, and this antecedent clause must precede the pronoun, yet be in the same sentence as the pronoun. The pronoun cannot be c-commanded by the antecedent-clause arguments with which it stands in a coupling relationship. These specifications are fulfilled by an antecedent clause which is a first conjunct.⁴⁶

There is a slight difference in the way the Coupling Mechanism is used in Norwegian and in Baule. In Norwegian, the Coupling Mechanism is used exclusively by null objects to fulfill the Identification Condition. All coupled object pronouns are null objects. Use of null objects in the Norwegian EOC has an optional character. In the

⁴⁶ In Chapter 5, however, I will discuss the Dutch/German AOG construction, a case in which apparently the Coupling Mechanism is at work in an adjunction structure.

majority of the cases, an overt pronoun could have been used as well. In Baule, the Coupling Mechanism is used to fulfill the Identification Condition for two types of null pronouns: null subjects and null objects in Essential-Combination ESC/RSC. The Coupling Mechanism is also used to fix reference of pronouns independently of whether it is needed to fulfill the Identification Condition. In the ESC, if an argument of V1 and an argument of V2 refer to the same entity, the argument of V2 is coupled to the argument of V1, whether or not Identification is necessary. Example (4.3) is an ESC in which the coupled pronoun is overt. In this example, the Coupling Mechanism used for interpretation independently of Identification requirements

- (4.3) ɔ **to-li** **lomi**_i **yrɛ-li** **i**_{i/*m}
 3ss buy-COMPL orange burn-COMPL 3so
 'S/he bought an orange and burned it.'
 (Baule ESC)

The difference between Norwegian and Baule is that in Baule the Coupling Mechanism is the default mode of interpretation and must be used wherever possible. In Norwegian, the Coupling Mechanism has an optional character and is used only where necessary to fulfill the Identification Condition.

4.1.3 *Alternative accounts*

This section discusses three possible alternatives to the account proposed here and highlights the reasons for which the Coupling Mechanism must be considered superior.

4.1.3.1 *Srivastav (1991)*

Srivastav (1991) presents an analysis of correlative constructions in Hindi. Correlatives are clauses that appear to be relative clauses that do not necessarily appear adjacent to the noun that they are related to.

(4.23) [Jo laRkii khaRii hai] vo lambii hai.

REL girl standing is DEM tall is

'The girl who is standing is tall.'

(Hindi, Srivastav 1991, p. 639, ex. 3a.)

The clauses are linked by a relative morpheme (REL) on the correlative and a demonstrative (DEM) on the main clause. According to Srivastav (1991), the correlative acts like a quantifier that binds a position in the main clause. Srivastav (1991) gives an analysis under which the correlative is a CP that is adjoined to the left of the IP, the main clause. The correlative is predicated of the main clause. Being a quantifier, the correlative denotes a set of properties. In this example, this set of properties is the set of properties of the unique individual who is a girl and who is standing. The IP contains a demonstrative, which acts as a free variable. The IP can therefore be interpreted to denote an open formula, in particular, a unary predicate. The predicate is the set of individuals that have a certain property; in this case, that property is the property of being tall. The example is true if the property of being tall is among those properties of the unique individual who is a girl and standing.

Now we turn to the correlative example that appears to be related to EOC/ESC. Hindi correlatives admit multiple relativization.

(4.24) [Jis laRkiINE jis laRkeKO dekhaa] usNE usKO pasand kiyaa.

REL girl.ERG REL boy.ACC saw DEM.ERG DEM.ACC liked

'Which girl saw which boy, she liked him.'

This example resembles EOC/ESC because it demonstrates an alignment between the subject of the correlative and the subject of the main clause and the object of the correlative and the object of the main clause. This example cannot mean '*Which girl saw which boy, he liked her.*' Under Srivastav's account, the correlative presupposes a bijection between boys and girls. It is a quantifier that denotes the set of properties that hold of the relation between a girl and the unique boy that she sees and a boy and the unique girl who sees him. The main clause is a predicate that denotes the

property of liking. It is the set of all pairs of entities that stand in a liking relationship to each other. The sentence is evaluated as true if liking is a property that holds of pairs of girls and boys standing in a seeing relationship.

The problem with this account is that it fails to capture the alignment effect. It assumes that when liking is predicated of all girls and boys standing in a seeing relationship that see-ers will automatically be associated with likers and persons seen will automatically be associated with persons liked. This assumption amounts to stipulating the alignment effect.⁴⁷ For Baule ESC and for serialization phenomena in other languages it is clear that the alignment effect is a central piece of the puzzle and must be explicitly accounted for. Now I turn to the discussion of two accounts that attempt to derive the alignment effect directly.

4.1.3.2 *Speas (1990)*

The second alternative account would explain the alignment effect by implementing a parallelism constraint on grammatical relations.⁴⁸ Arguments of V1 and pronominal arguments of V2 that have the same grammatical relations would be required to be co-referent. Such an account has been proposed by Speas (1990) to explain the constraints of interpretation in effect on Navajo relative clauses.

⁴⁷ *Persons seen* could be straightforwardly linked with *persons liked* if it were possible to make reference to grammatical relations of the arguments to the verbs, since in this example they are both objects. Such reference would necessitate information concerning the mapping between the semantics and the syntax. In some languages, such as German, *persons liked* are mapped to subjects.

(i) **Das Mädchen gefällt mir.**
 the girl pleases me
 'I like the girl.'

Srivastav's (1991) account makes use only of semantic representations. It is for this reason that I consider the association between persons seen and persons liked to be stipulated.

⁴⁸ Grammatical relations are labels like 'subject' and 'object'. Throughout the discussion, the grammatical relation of an argument is taken to be dependent on what kind of Case it has checked, which in turn depends on with which head the nominal has entered into the Agree relation (T or Tr).

Relative clauses in Navajo are internally headed, and the head is often ambiguous. Ambiguity is compounded by the fact that in Navajo both subjects and objects can be null pronouns. A parallelism constraint, however, serves to limit this ambiguity. Consider the following example in which the relative is ambiguous between a subject relative and an object relative and can be interpreted as modifying either the subject or the object of the matrix

- (4.25) **Hastiin ʔiɣi' yizloh-éé yí'diilid.**
 man horse 3o.3s.roped-REL 3o.3s.branded
 (Navajo, Speas 1990, p. 223, ex. 45)

Possible reading: *'The man branded the horse he roped.'*

Possible reading: *'The man who roped the horse branded it.'*

Impossible reading: *'The man branded the horse that roped him.'*

Impossible reading: *'The horse the man roped branded him.'*

The *subject* of the relative clause must be understood as referring to the same entity as the *subject* of the matrix, and the *object* of the relative clause must be understood as referring to the same entity as the *object* of the matrix. Speas (1990) proposes that there is a constraint in operation that requires the null pronominal to be interpreted as co-referential with the NP bearing the same grammatical relation (p. 225). She attempts to extend Huang's Generalized Control Rule (Huang 1989) to cover these cases, but comes to the conclusion that such an extension would be ad hoc. Her conclusion is that the parallelism constraint is due to a parsing strategy that she labels the 'parallel function strategy'.

A further manifestation of this strategy is, Speas (1990) claims, acceptability patterns in dislocated relative clauses in English.

- (4.26) **The woman who he interviewed, the man called her.**
 (Speas 1990, p. 233, ex. 59a.)

- (4.27) ??**The woman who interviewed him, the man called her.**
 (Speas 1990, p. 233, ex. 59b.)

She makes the point that the strategy applies to surface relations, pointing out that objects promoted by passive pattern with subjects.

(4.28) **The woman who was arrested by the man, she called him.**

(4.29) ??**The woman who was arrested by the man, the man called her.**

There are two reasons why Speas' (1990) account cannot be applied to account for the facts of Baule. The first reason is that Speas' (1990) account makes reference to grammatical relations. In Norwegian and Baule we have seen clear evidence that a factor such as agentivity/volitionality plays a role. Agentivity and volitionality do not correlate with grammatical relations, as is the case in (4.28) and (4.29). The second reason involves the fact that there are no constraints on other possible reference for the null pronouns that are interpreted by the strategy; in other words, there is no coupling effect in Navajo. The possible readings I have listed in (4.25) are only a selection of the possible readings. There are other possible readings in which the null arguments are interpreted as referring to extrasentential referents. For example, (4.25) can also mean '*She branded the horse that the man roped.*' This is a difference between these Navajo constructions and Baule constructions. Baule has standard null pronouns, but these null pronouns demonstrate coupling effects when they occur in second conjuncts of ESC.

4.1.3.3 *Franks (1993, 1995)*

The third alternative account would involve a matching of relative prominence between the coupled pronoun arguments of V2 and the arguments of V1 with which they stand in a coupling relationship. Prominence refers to the hierarchical order of the arguments. Prominence can either be defined structurally, in which case the argument which occupies the highest position is the most prominent, or it can be

defined thematically, in which case the argument that is highest in the thematic hierarchy is the most prominent.

Prominence has been argued by Franks (1993, 1995) to be the relevant factor in licensing the acceptability of ATB-extraction in Slavic languages. In Slavic languages, relativized coordination must contain a gap of the same Case in each conjunct. The exception to this generalization is cases in which the relative pronoun is a syncretic form that matches the morphological Case requirements of both conjuncts. Such an example is illustrated for Russian in (4.30).

- (4.30) **devuška, kotoroj ja byl uvlečen i daval den'gi**
 girl who.INSTR/who.DAT I was carried.away.with and gave money
'the girl who I was carried away with and gave money to'
 (Russian, Franks 1993, p. 513, ex. 8)

Franks (1993, 1995) argues that morphological identity of the required forms of the relative pronoun is necessary but not sufficient and that ATB-extraction needs a further requirement to be satisfied. This requirement is that the left gaps in each conjunct match in prominence; either they must both be in the highest argument position in their conjuncts, or in the lowest argument position.

- (4.31) ***mal'čik, korigo ne bylo na uroke i my izbegali na ulice**
 boy who.DAT not was in class and we avoided on street
'the boy who was not in class and we avoided on the street'
 (Russian, Franks 1993, p. 513, ex. 9)

Under Franks' analysis there is an isomorphism between thematic prominence and structural prominence and for this reason it is sufficient for the purposes of the present discussion to consider only the relative structural prominence of the gaps in (4.31). Example (4.31) demonstrates that even two gaps that match in Case do not guarantee a licit ATB-extraction, unless these gaps also match in prominence.

A prominence-based account of how coupled pronouns in EOC/ESC fulfill the Identification Condition would involve claiming that EOC/ESC is interpreted using a template matching procedure. The coupled arguments of the non-initial conjunct would be required to refer to those arguments of the initial conjunct, the template, that match them in prominence. Such an account fulfills both the specifications for the Coupling Mechanism that were set out at the beginning of the section. Coupled pronouns do not have extrasentential reference possibilities because they are required to refer to an entity referred to in the template. Null pronouns would not be licensed in standard contexts, such as in simple, non-coordinated sentences, simply because they would have no template.

The main factor that speaks against such a prominence-based account is that it does not explain why ESC and EOC constructions consistently contain two verbs with agentive subjects. Prominence does not allow us to say anything about why (4.16) is an unacceptable EOC.

- (4.16) **Jeg kjente boken og kjøpte *(den) til Marit.**
 I know.PAST book.DEF and buy.PAST *(it) for Marit
I knew the book and bought it for Marit.
 (Norwegian)

The empty category in (4.16) is excluded under my Coupling Mechanism because the initial conjunct does not yield a unique relative clause that serves to pick out a single non-volitional discourse referent. Both **[the person who knows the book]** and **[the book that I know]** refer to non-volitional discourse entities.

A further reason to prefer Identification via definite description (i.e. Coupling Mechanism) over Identification via prominence matching involves considerations of model design. If we postulate that prominence matching is at work in the EOC/ESC, we have to tolerate the existence of a mechanism that applies only to coordinations

for the purpose of assigning reference. In the next section, I will argue that definite description construction is independently motivated. It is necessary for the interpretation of pronouns that receive E-type readings. For this reason, my proposed Coupling Mechanism adds less complexity to the system than a prominence matching-based account of Identification.

4.1.4 *Motivation for reference recovery via definite description*

In this section, the process of definite description derivation that comprises the core of the Coupling Mechanism is argued to be an integral part of the interpretational system independent of its use for the Identification of null pronouns. Recall that E-type pronouns are pronouns that are interpreted as related to a quantified NP that does not bind them. Early discussions of such pronouns include Cooper (1979) and Evans (1980). There are quite a large number of more recent analyses of E-type pronouns, and the ones that I will have occasion to mention here include Heim (1990), Neale (1990a, 1990b) and Heim and Kratzer (1998).

The classic treatment of E-type pronouns in the literature maintains that E-type pronouns are interpreted via definite descriptions; Evans (1977, 1980) is an account of this sort. Evans claims that E-type pronouns fix their reference by using a definite description recovered from an antecedent clause. Consider the following example.

- (4.32) **John owns some sheep and Harry vaccinates them in the Spring.**
(Evans 1980, p. 339, ex. 8)

Evans' claim about this example is that the description '*the sheep that John owns*' is used to fix the reference of the pronoun *them* (Evans 1977, p. 111). This fixing has the effect of forcing the pronoun to refer to the set of entities that verify the antecedent clause. This set consists of the set of sheep that make **John owns some sheep** express a true proposition.

In Chapters 2 and 3, I have shown that coupled pronouns in the Norwegian EOC and Baule ESC receive an E-type reading when the corresponding argument of V1 is a (appropriate) quantified NP.

(4.33) = (2.79) **Jens skrev bare to brev og sendte dem til England.**
 Jens write.PAST only two letter and send.PAST them to England
'Jens wrote only two letters and sent them to England.'
 (Norwegian EOC)

(4.34) = (3.100) **Ɔ to-li ofle nyon ce di-li.**
 3ss buy-COMPL papaya two only eat-COMPL
'S/he bought only two papayas and ate them.'
 (Baule ESC)

(4.35) = (3.121) **Talua nsan ce be tra-li wuo di-li.**
 girl three only 3ps catch-COMPL snake eat-COMPL
'Only three girls caught a snake and they ate it.'
 (Baule ESC)

In each of these examples, the argument of V1 that stands in a coupling relationship with the pronoun argument of V2 is a quantifier. Under Evans' (1980) account the null E-type pronoun in the second conjunct of (4.34) would have its reference fixed as illustrated in (4.36).

(4.36) **She bought only two papayas and ate [the papayas that she bought].**

This representation is identical to the representation that I am proposing (cf. 4.1.1) depicts the Coupling Mechanism used for interpretation in the ESC and to license null pronouns in EOC/ESC.

More recent accounts have pointed out weaknesses of Evans' (1977, 1980) original proposal. A major criticism is that sentences with E-type pronouns don't carry the uniqueness presuppositions that are associated with the definite description. Consider the sentence in the following example.

- (4.37) **Every man who bought a donkey vaccinated the donkey he bought.**
 (Neale 1990a, p. 113, ex.1)

If the reference of this pronoun is fixed by the definite description [**the donkey he bought**], (4.37) would require that every man bought exactly one donkey. This example, however, is not judged by speakers to be inapplicable in situations in which some men own more than one donkey. Neale (1990a, 1990b) circumvents this problem by proposing that the appropriate description that should be used to fix the reference of the pronoun is a numberless description, [**whatever donkeys or donkey he bought**]. In this way, the definite description does not add cardinality implications that are not also supplied by the antecedent (p. 141). Heim (1990) suggests that speakers presuppose a restriction on the domain of quantification that will have the effect that [**the donkey he bought**] is well defined, i.e. is able to pick out a unique donkey.

This weakness of Evans' account does not directly bear on this discussion, since the examples I am discussing are restricted to those which do not contain one quantifier embedded under the other.⁴⁹ Consider (4.34), repeated.

- (4.34) ɔ to-li ofle nyon ce di-li.
 3ss buy-COMPL papaya two only eat-COMPL
'S/he bought only two papayas and ate them.'
 (Baule ESC from Chapter 3)

The truth conditions of this sentence are not evaluated on the basis of multiple situations of papaya buying. There is a single relevant instance of papaya buying and

⁴⁹ Recall this restriction allows us to diagnose E-type pronouns in terms of Evans' (1980) two tests discussed in Chapter 2. Further, the restriction makes it possible to discuss E-type readings for pronouns in terms of reference. I delay consideration of more complicated examples to future investigation.

this instance involves two papayas. Using a definite description does not give rise to unwanted cardinality presuppositions.

There is one difference between overt E-type pronouns and null pronouns in Norwegian EOC and Baule ESC: overt E-type pronouns are not subject to coupling effects. An object E-type pronoun (in italics) can stand in relationship with a subject quantifier antecedent.

(4.38) **Only two students were able to finish the assignment and the teacher praised *them*.**

The lack of coupling effects can be attributed to the fact that interpretation of E-type pronouns involves neither an Ambiguity Prohibition nor a Matching Constraint. Since the interpretation of (overt) E-type pronouns does not require complete recovery of content, it is not necessary to derive a unique definite description. For this reason, any definite description suffices and additional restrictions are not necessary.

Heim and Kratzer (1998) point out that it is possible that E-type pronouns should be freely generated in situations in which they do not have quantifier antecedents (p. 294). They go generally unnoticed because there is no difference between standard referential construal and E-type interpretation in these cases. Heim and Kratzer (1998) say that listeners use the simpler parse and then try the more complicated parse, if that doesn't work. The facts of Baule and Norwegian seem to support Heim and Kratzer's (1998) conjecture. Coupled pronouns are simply E-type pronouns that are generated where they are needed in order to fulfill the Identification Condition for null pronouns and do not (necessarily) have quantifier antecedents.

4.2 Refining the structures

The proposed Coupling Mechanism promises to account for the licensing of null pronouns in second conjuncts and the existence of coupling effects. The proposal, however, as yet lacks an explanation for the fact that both Norwegian and Baule impose strict restrictions on what kinds of second conjuncts admit coupled null pronouns. Norwegian allows no subjects, auxiliaries or negation markers in the second conjuncts of EOC and limits adverbial modification. Baule enforces polarity matching and limits adverbs in ESC. Coupled pronouns do not occur in sentential complements of V2 in either construction. An additional problem of the proposed account of EOC/ESC as it now stands is that the Coupling Mechanism significantly over-generates. In particular, the proposed account does not yet explain why Essential-Combination null pronouns are not licensed in coordination.

(4.39) = (3.118) ***Aya fa-li fluwa-'n kpekun ɔ man-ni mi.**
 Aya take-COMPL book-DEF and 3ss give-COMPL 1so
 Intended reading: 'Aya took the book and gave it to me.'

In this section, the preliminary structures presented in Chapter 2 and 3 for Norwegian EOC and Baule ESC are refined. It is argued that the restrictions on second conjuncts of EOC/ESC reflect a requirement on the position of the null pronoun within its clause that is imposed by the Coupling Mechanism. This requirement will be argued to also account for (4.39).

4.2.1 The structure of Norwegian EOC

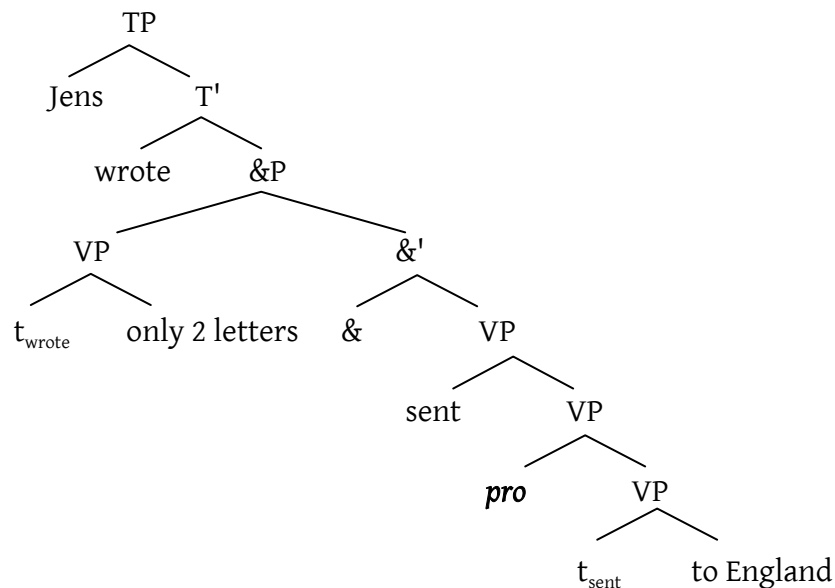
In Chapter 2, it was motivated that Norwegian EOC should be analyzed as having an underlying coordination structure. A coordination structure was argued to be necessary due to the E-type reading of the empty object, marked *pro* in (4.33)', which forces the conclusion that it is not c-commanded by the quantified object of V1.

- (4.33)' Jens skrev bare to brev_i og sendte *pro*_{i/*k} dem til England.
 Jens write.PAST only two letter and send.PAST *pro*_{i/*k} them to England
 'Jens wrote only two letters and sent them to England.'
 (Norwegian EOC)

Structure (4.40), a coordination projected by a Boolean head, was put forward in Chapter 2 as preliminary structure for Norwegian EOC.

(4.40) = (2.107) **Appropriate structure for Norwegian EOC (preliminary)**

- Only one representation of tense/aspect
- V1-Object does not c-command V2-Object



It is assumed that coordination takes place at some level lower than TP since conjuncts of EOC must match in tense/aspect and the second conjunct does not contain its own auxiliary.

- (4.41) = (2.15) **Jens skrev et brev og sender *(det) til England.**
 Jens write.PAST a letter and send.PRES *(it) to England
 '*Jens wrote a letter and sends (it) now to England.*'
- (4.42) = (2.20) **Jens har rettet et brev og har sendt *(det) til England.**
 Jens has correct.PAST a letter and has send.PART *(it) to England
 '*Jens has corrected a letter and has sent (it) to England.*'

In the following discussion the exact identity of VP is addressed.

4.2.1.1 Norwegian EOC coordinates TrPs

In the version of the Minimalist Program I adopt, there are multiple projections located below TP. The highest verbal project is vP⁵⁰ and introduces the external argument. In the case of transitive verbs, vP selects TrP,⁵¹ the projection of the transitivity category Tr, which may contain ϕ -features and is involved with checking accusative Case. TrP in turn selects VP, the core verbal projection of the lexical verb. The question that needs to be answered is to which of these three categories PrP, TrP or VP the verb phrases shown as coordinated in (4.40) belong. The fact that the second conjunct of the EOC cannot contain a subject suggests that it does not contain a subject position.

⁵⁰ In the Bowers (2002) framework, vP corresponds to PrP (PredP). Here, I use the more widely familiar designation vP.

⁵¹ Evidence for movement of the object to Spec Tr is that V-modifying adverbs such as **perfectly** must occur at the end of a sentence, as illustrated by the following example.

- (i) **John has rolled (*perfectly) the ball (perfectly).**
 (adapted from Bowers 2002, p. 188 ex. 7a.)

This fact also holds of Norwegian, as demonstrated by the following example.

- (ii) **Jens har skrevet (*perfekt) brevet (perfekt).**
 Jens has written (*perfectly) letter.DEF (perfectly)
 '*Jens has written the letter perfectly.*'

For this reason I will assume that Norwegian uses TrP in the same way that Bowers (2002) proposes that it is used for English.

- (4.43) = (2.14) **Han tok mynten og han kastet *(den) i kurven.**
 He take.PAST coin.DEF and he throw.PAST *(it) in basket.DEF
'He took the coin and threw (it) in the basket.'
 (Modern Norwegian, Johnsen 1988, p. 198, ex. 12d)

A quantifier floated off the subject cannot appear in the second conjunct.

- (4.44) = (2.24) **Barna tok mynten og la (*alle) i kurven.**
 children.DEF took coin.DEF and laid (*all) i basket.DEF
 Intended reading: *'The children took the coin and all laid it in the basket.'*

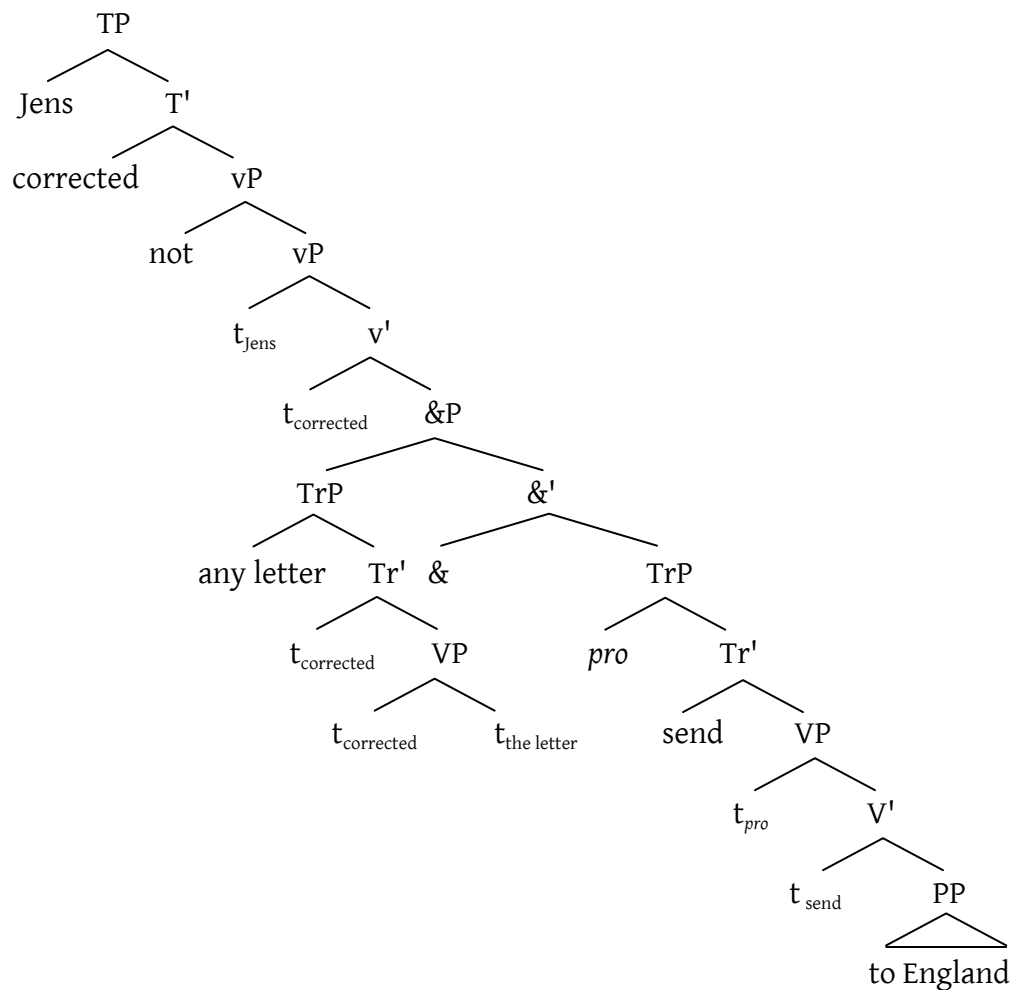
This fact excludes the possibility that the second conjunct contains a base subject position and makes it possible to conclude that it must be smaller than vP.

The distribution of markers of negation supports the view that the conjuncts of the EOC are smaller than vP. Negation is excluded from appearing in second conjuncts.

- (4.45) = (2.26) **Jens rettet ikke noe brev og sendte (*ikke) til England.**
 Jens correct.PAST not any letter and send.PAST (*not) to England
'Jens didn't correct any letter and send it to England.'

This exclusion is can be explained if it is assumed that negation is adjoined to vP.

The second conjunct of EOC is too small to contain negation since it does not contain vP.

(4.46) Revised structure⁵² for Norwegian EOC (with negation)

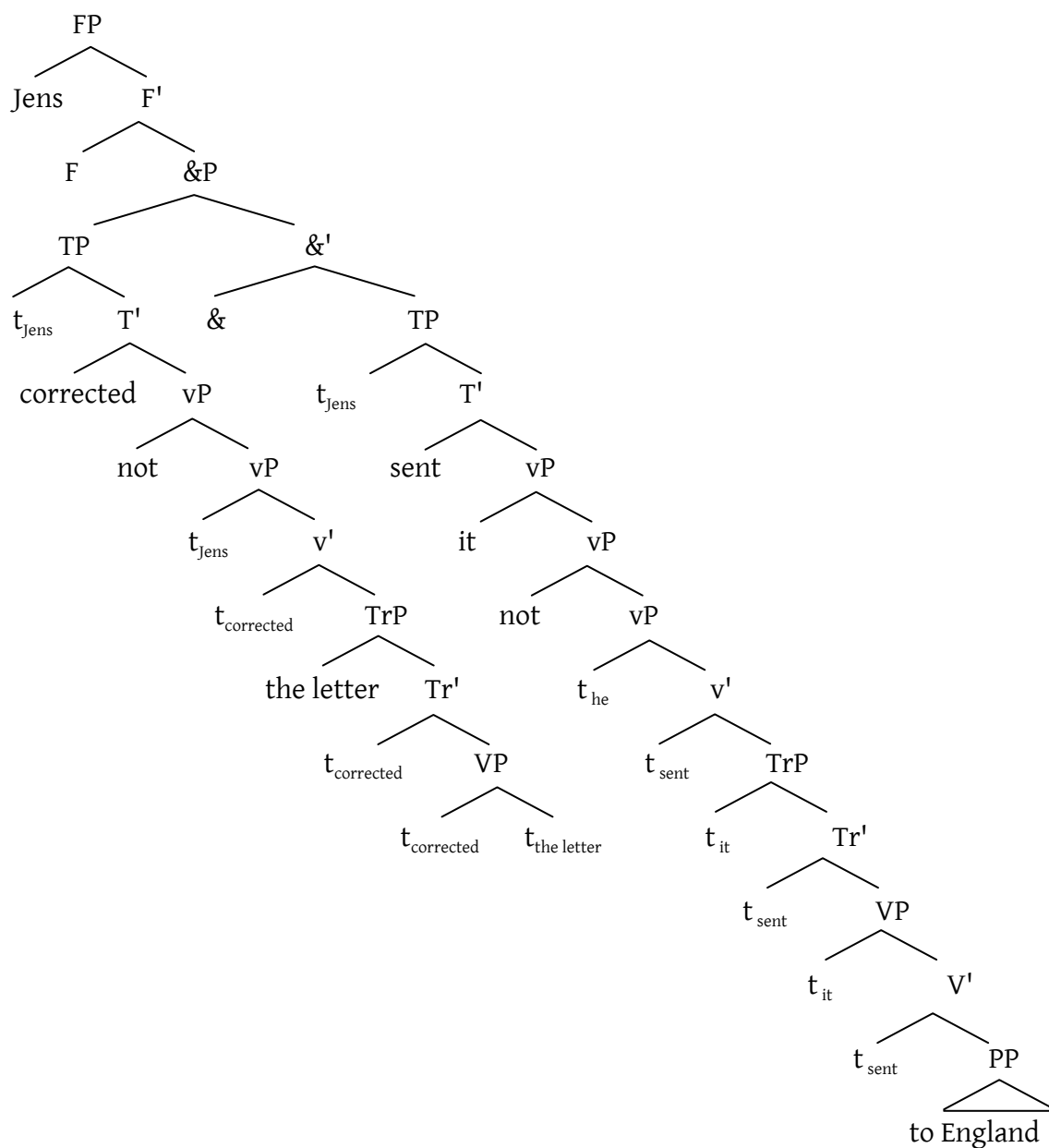
The proposed structure (4.46) accounts immediately for the fact that it is impossible for the second conjunct to be negated independently of the first conjunct. As evident from (4.46), the second conjunct is too small to contain negation.

Non-EOC coordination can involve two different tenses and two negation markers. For non-EOC coordination, such as (4.47), it is clearly the case that an underlying structure involving the coordination of two TPs is possible, as illustrated in (4.48).

⁵² Some accounts hold that the finite verb moves to C in Norwegian main clauses. My account is neutral to whether or not such movement takes place.

- (4.47) **Jens rettet ikke brevet og sendte det ikke til England.**
 he correct.PAST not letter-the and send.PAST it not to England
'Jens didn't correct the letter and didn't send it to England (uncorrected).'

- (4.48) Norwegian non-EOC coordination (with negation)



In (4.48), coordination involves ATB movement of the subject and of both conjuncts and is effected with two projections, &P and FP. The FP is the projection that makes it possible for a TP-coordination to contain only a single subject in its surface string.

F selects &P as its complement. F consists of nothing but an EPP-feature. This EPP-feature is special in that it requires two identical subjects in order to check it. The subjects move across-the-board out of each conjunct to check this feature. The two subjects must be phonetically identical and conflate into a single subject in Spec F. I will offer more discussion of standard coordination and of FP in Chapter 5.

Further supporting evidence that Norwegian EOC involves coordination of projections of size TrP involves the facts of adverb distribution. Recall from Chapter 2 that certain adverbials cannot be contained in the second conjunct.

- (4.49) = (2.27) **Han tar en mynt, og kaster *(den,) alltid i kurven.**
 He take.PRES a coin_i and throw.PRES *(it_i) always in basket.DEF
'He takes a coin and always throws it in the basket.'
 (Norwegian, Johnsen 1988, p. 198, ex. 12d.)

I would like to put forward that the unacceptability of this example derives from the fact that the adverb **always** quantifies over a temporal variable. Since the second conjunct of the EOC contains no TP, it also contains no temporal variable. For this reason, it cannot contain **always**.

The data concerning other adverbs is not so clear. It is possible to give a relative acceptability ranking among types of adverbs that can appear in the second conjunct of the EOC. These examples are listed from best to worst.

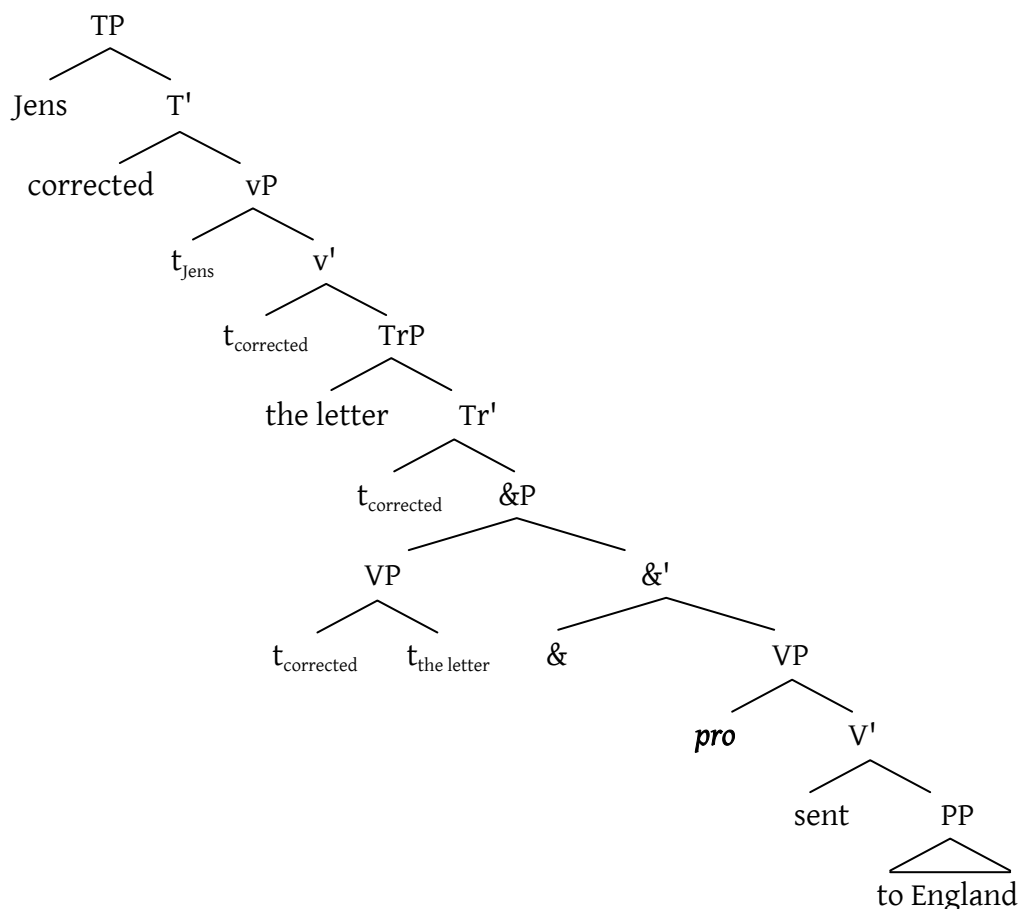
- (4.50) = (2.29) **Stundom tog jeg op to Ortestykker af Lommen**
 time.to.time took I up two ore.pieces from pocket
og klirred høyt med.
 and jingled loudly with
'From time to time I took two ore pieces from my pocket and jingled with them loudly.'
 (Norwegian, adapted from example from Hamsun, from Ch. 2)

- (4.51) ??Jens skrev_i et brev og sendte med en gang til England.
 Jens write.PAST_i a letter and send.PAST immediately to England
 'Jens wrote a letter and immediately sent it to England.'
 (Norwegian, from Ch. 2)
- (4.52) = (2.32) ??Jens skrev_i et brev og sendte sannsynligvis til England.
 Jens write.PAST_i a letter and send.PAST probably to England
 'Jens wrote a letter and immediately sent it to England.'
 (Norwegian, from Ch. 2)

Speaker acceptance of adverbs is delicate and not always reproducible. A sentence-level adverb like **probably** is barely tolerable in EOC non-initial conjuncts, and a case could be made that (4.52) should be starred. Under my account, the reason why **probably** is not acceptable is that the second conjunct is too small to contain the high position needed for **probably**. It is not clear that any adverbs are really acceptable beyond monosyllabic manner adverbs such as **høyt**, 'loudly' in (4.50). Apparently, adverbs that can appear in the second conjunct of the Norwegian EOC belong to the class of adverbs called V-modifying adverbs (Bowers 1993, 2001, 2002; see also Cinque 1999 and Nilsen 2000). Since such adverbs merge with VP, we expect them to be able to appear in the second conjunct of the Norwegian EOC, which contains a VP. Adverbs that merge with any projection larger than VP, however, are excluded from appearing in the second conjunct. In sum, the evidence is convincing that Norwegian EOC involves the coordination of TrP. In 4.2.1.2, the section which discusses the structural requirements of the Coupling Mechanism, I address the question of why coordination of vP conjuncts does not admit empty objects.

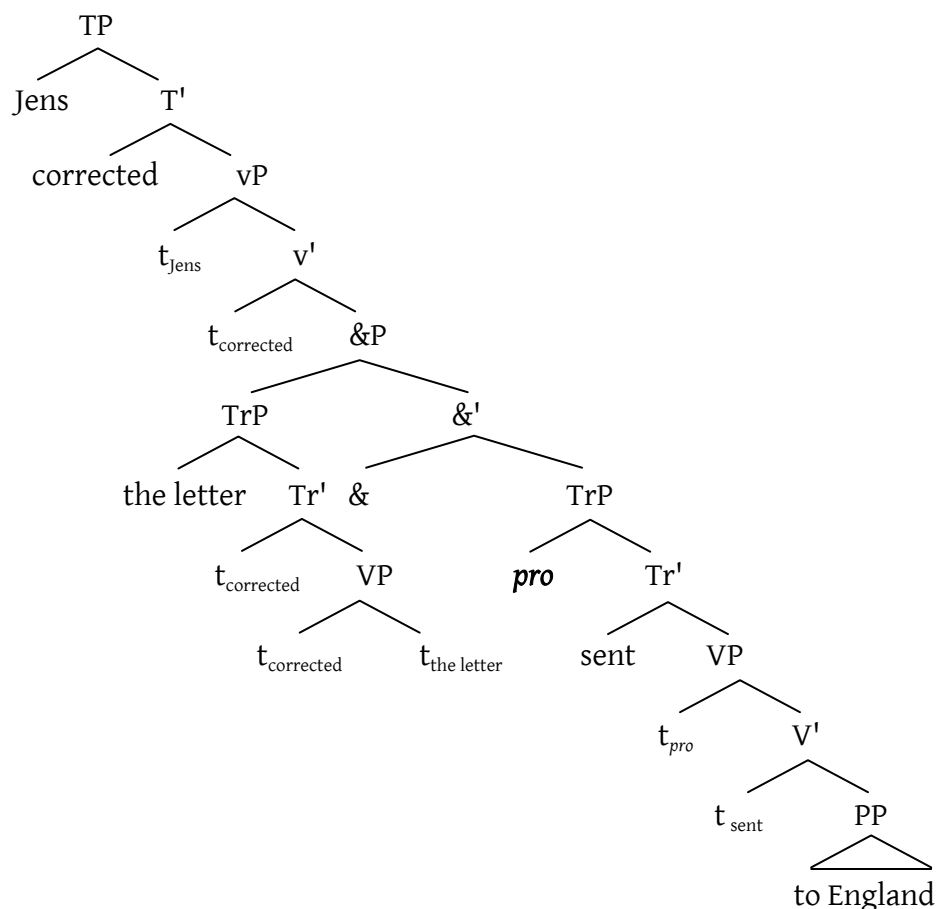
It is necessary to eliminate a remaining possibility before accepting (4.46) as the final structure for Norwegian EOC. Although it has been shown that it is not possible that EOC coordinates conjuncts larger than TrP, it remains to be shown that EOC does not involve conjuncts of size smaller than TrP, namely, VP, as shown in (4.53).

(4.53) VP-coordination (inappropriate for Norwegian EOC)



This structure is unacceptable because it does not provide a possibility for the empty object to check Case. It has been shown that the empty object is a pronoun like any other pronoun in Norwegian, different only in that it lacks phonetic content.

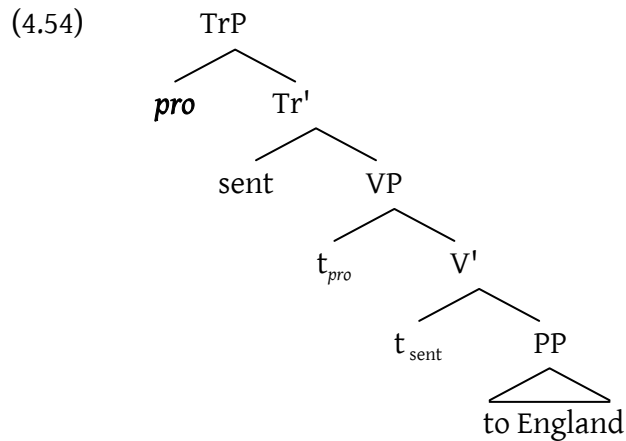
Because it is a pronoun, it must check Case and for this reason it is necessary to assume that it enters into Agree with its own Tr. In (4.53), there is a single Tr, which checks Case of the first conjunct object, but which leaves the empty object unchecked. I assume that not only that the second conjunct contains Tr, but also that the null object moves to Spec Tr and therewith satisfies the EPP feature of Tr. This configuration is pictured in (4.46) '.

(4.46)' *Structure for Norwegian EOC (final)*

Notice that in this structure V1, **corrected**, moves out of its conjunct in violation of the Coordinate Structure Constraint. I assume that movement of V1 is necessary since T has a strong V-feature that needs to be checked. It is V1 and not V2 that moves to check this feature because V1 is close to T. Presumably, both V1 and V2 have a verb feature as well that needs to be checked in T. I will assume that this feature is not strong, and for this reason, does not need to be checked until LF. V2 does not need to leave its conjunct in the surface syntax.

4.2.1.2 The structural requirements of the Coupling Mechanism

The foregoing discussion has argued that EOC coordinates conjuncts of type TrP and that the null object of the second conjunct moves to Spec Tr of that conjunct.



This section will argue that this configuration is necessary due to the requirements of the Coupling Mechanism.

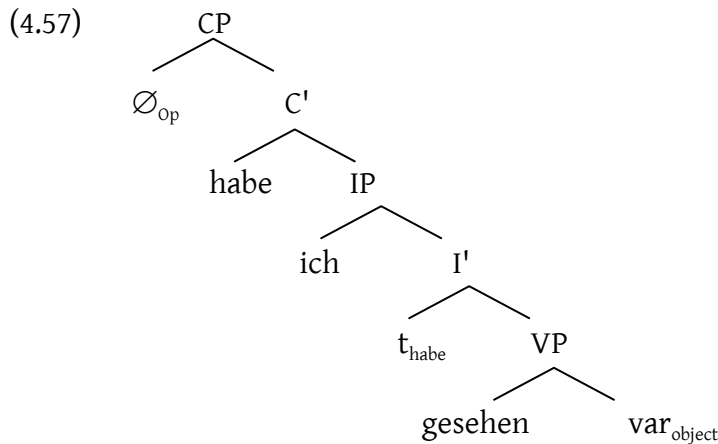
A promising point of departure is the observation that the TrP conjunct in (4.54) has a configuration similar to that of topic drop structures in German, Dutch and Icelandic.

- (4.55) **hab' ich schon gesehen.**
 have I already seen
'I have seen him/it/her/them already.'
 (German, Huang 1984, p. 546 ex. 47c.)

In German and Dutch, in order for an object to drop, it must occupy topic position; objects in sentence-internal object positions must be overt.

- (4.56) **Ich hab' *(ihn) schon gesehen.**
 I have *(him) already seen
'I have seen him already.'

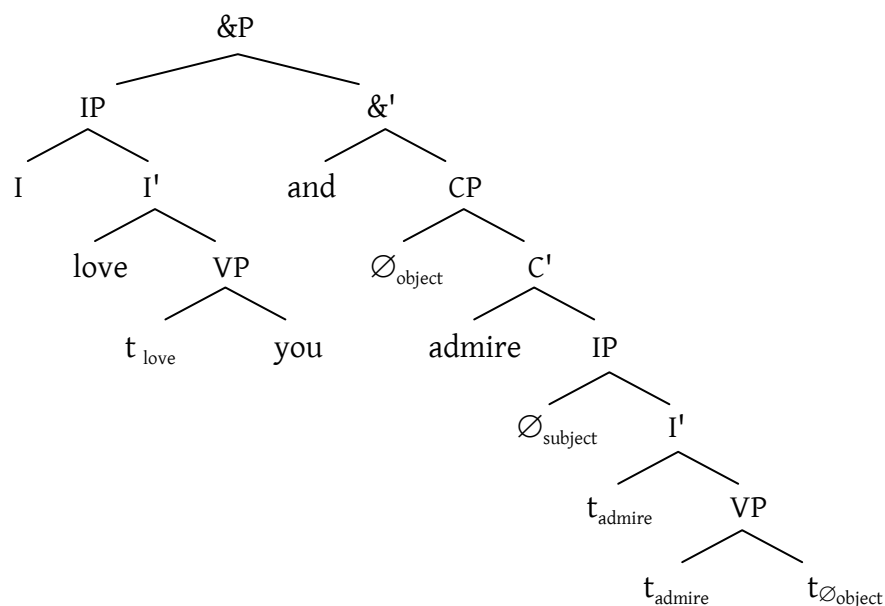
Huang (1984) proposes that null objects in German and Chinese are cases of a null-operator bound variable.



I would like to put forward that it is the special nature of top structural positions, such as Spec C in German and Dutch that makes it possible for null elements in these positions to make use of Identification mechanisms drawing on extra-clausal material. In the case of null operator present in the null topic construction, this material comes from the discourse context. In the case the Norwegian empty object, this material is the first conjunct, which the Coupling Mechanism needs in order to derive a definite description.

My account thus shares a certain similarity with that of Pouplier (2003) who proposes that the empty object of Icelandic EOC is a null operator-bound variable, exactly like the dropped Germanic topics illustrated in (4.57).

- (4.58) **Ég elska þig og dái**
 I love you and admire
I love you and admire (you).
 (Modern Icelandic, Rögnvaldsson 1990, p. 370, ex. 11c.)

(4.59) *Structure of Modern Icelandic EOC (Pouplier 2003)*

Pouplier (2003) analyzes Modern Icelandic EOC as the coordination of an IP and a CP. Under her account, the empty object is licensed because it appears in topic position, and Modern Icelandic allows null topics. The empty subject is licensed because, according to Pouplier, Modern Icelandic is capable of dropping referential subjects. The subject in the EOC is never allowed to be overt, in order that the EOC not violate information structure principles that require the relative prominence of subject and object to be the same in both conjuncts.

There are two reasons Pouplier's (2003) account does not directly extend to cover the Norwegian EOC. First, Norwegian is different from Icelandic in that it does not admit topic drop, as demonstrated by the following example.

- (4.60) ***(Den) har jeg allerede lest.**
 *(it) have I already read
 'I've already read it.'
 (Norwegian)

Unlike in German, a topicalized pronoun must be overt. Second, Norwegian EOC does not license parasitic gaps, as mentioned in Chapter 2.

- (4.61) = (2.41) ***Jens kjøpte en ring og gave Marit**
 Jens buy.PAST a ring and give.PAST Marit
 etter å ha pusset med gullpuss først.
 after to have polish.PART with gold.polish first
 Intended reading: 'Jens bought a ring and gave it to Marit after having
 polished it with gold polish first.'
 (Norwegian, Åfarli and Creider 1987, p. 344, ex. 27)

These two facts suggest that an account involving a null operator is not appropriate for Norwegian EOC. Additionally, the structure in (4.59) contains two IPs(TPs), and thus two representations of tense/aspect, whereas I have argued that Norwegian EOC is coordination of projections smaller than TP.

While it is not possible to adopt structure (4.59) for Norwegian EOC, closer consideration of the properties of Spec C and of the null elements that occupy Spec C position in Icelandic provides important insight. I would like to advance the idea that the importance of Spec C being the topmost position in the structure is related to prominence. The most (structurally) prominent position in a structure is the position that c-commands all other positions in that structure. If a null pronoun is able to move to a sufficiently prominent position, it is licensed in this position. The motivation for this principle is that a null pronoun in a prominent position is able to achieve the necessary proximity to the linguistic material or preceding discourse context that contains its antecedent.

Evidence for the principle that prominence permits an element access to extra-clausal referents can be derived from relative clauses that are head initial.

- (4.62) **das Buch, das ich kaufte** t_{das}
 the book REL I bought
'the book that I bought.'
 (German)

No particular feature that can be claimed to drive movement of the relative pronoun to the head C in a relative clause. Relative clauses differ in this way from, for example, embedded questions, where movement of the *Wh*-element is driven by +*Wh* features. It can be argued that the reason that the relative pronoun must move is that it must occupy a maximal position in order to be associated with the noun that the relative clause modifies.

Another example of an element that needs to occupy a high position in order to be close to extra-linguistic material is *early subject drop*. Early subject drop is subject drop used by children learning a non-subject drop language. Rizzi (2002) argues that early subject drop is a separate phenomenon from standard subject drop because its distribution is different. Although it disappears as the child acquires adult English, early subject drop still must be assumed to be constrained by Universal Grammar. Early subject drop takes place from the first position of the root clause. Children learning English produce declarative examples like (4.63).

- (4.63) **goes there.**
 (Rizzi 2002, p. 8 ex. 9a.)

In questions, or in embedded clauses, children do not produce subject drop.

- (4.64) **Where *(dis) goes.**
 (Rizzi 2002, p. 8 ex. 9b.)

- (4.65) **know what I maked.**
 (Rizzi 2002, p. 8 ex. 13b.)

An explanation for early subject drop is that it is only licensed when the subject is prominent enough in the sentence and is able to recover content (i.e. fulfill the Identification Condition) by associating with an extra-sentential antecedent. These

examples support my claim that the importance of the position of Spec C for the licensing of null pronouns in Icelandic and German involves its structural prominence.

Spec C in the topic drop construction and Spec Tr in the second conjunct of Norwegian EOC have in common the fact that they occupy a position that is a structural maximum. I would like to claim that the Coupling Mechanism only works in cases in which the null pronoun attains maximal position in its conjunct. This claim is supported by the fact that null objects are not licensed in sentential complements embedded in conjuncts.

- (4.66) = (2.37) ***Jens kjøpte en ring**
 Jens buy.PAST a ring
 og sa at han ville gi Marit.
 and said that he would give Marit
 Intended reading: 'Jens bought a ring and said
 that he would give it to Marit.'
 (Åfarli and Creider 1987, p. 340 ex. 8)

In order for the null object to fulfill the Identification Condition with the Coupling Mechanism, it would have to occupy the highest position in its clause, as illustrated in (4.66)'.

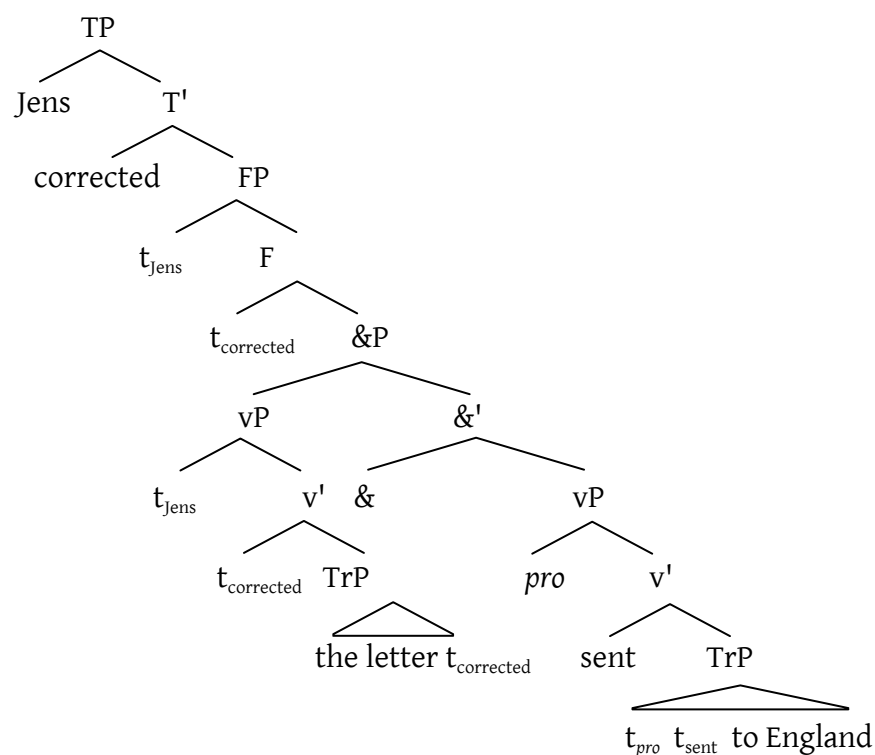
- (4.66)' ***Jens kjøpte en ring**
 Jens buy.PAST a ring
 og *pro*_{object} sa at han ville gi Marit.
 and ***pro*_{object}** said that he would give Marit

The null object cannot, however, move to this position, since movement to Spec Tr is clause bound and the null object cannot escape its complement.

At this juncture, it is possible to address the question of whether or not empty objects undergo Object Shift. It might be naturally expected that they do, since I have argued that Norwegian empty objects are pronouns differing from other

pronouns only in their lack of phonetic content. Overt pronouns in Norwegian are forced to leave the vP via Object Shift. I assume that when an object shifts, it moves to a specifier position of vP. The data of EOC strongly suggest that null objects do not shift. If they did, it would be expected that EOC could involve the coordination of two vPs. The empty object could reach that topmost position in its clause and have access to the Coupling Mechanism via object shift.

(4.67) vP coordination (not a possible structure for EOC)



It was argued above that the second conjunct does not contain a subject position, and therefore cannot be vP coordination. I would like to advance the position that the problem with vP coordination is that the empty object cannot undergo Object Shift and can therefore never occupy the Spec v position. The reasoning supporting this position is as follows. Overt object pronouns must leave vP in order to receive an interpretation. By leaving the vP they escape being assigned non-specific

reference. My position is that empty objects do not receive their reference like other pronouns. Instead they receive their reference via the Coupling Mechanism. Thus, the position of empty objects is important for their structural licensing, but is not important for their reference, which is fixed by the Coupling Mechanism. Since empty objects do not have to undergo Object Shift, they are prevented from doing so, and as such can never reach Spec v. An empty object in a vP coordination will never reach the highest position in its conjunct and therefore will never be licensed.

4.2.1.3 *Parallels between EOC and pseudo-passives*

The preceding discussion has reached the conclusion that the position that the second conjunct of EOC is of size TrP and that the empty object moves within its conjunct to the top position. The correctness of this conclusion is further confirmed by the fact that it makes it possible to draw a connection between EOC and pseudo-passive. Before turning to the striking parallel between Norwegian pseudo-passive and the EOC, a brief introduction to pseudo-passive and the assumptions I make about its structure are necessary. A pseudo-passive is a passive in which the object of a preposition is promoted to subject. In Norwegian, some prepositional objects can passivize while others cannot, as demonstrated by following contrast.

- (4.68) **Bordet ble lagt en duk på.**
 table.DEF was put a cloth on
'The table got a cloth put on it.'
 (Norwegian, Hendrick 1995, p. 321, ex. 41)

- (4.69) ***Hylla vart lagt egget paa.**⁵³
 shelf-DEF became laid egg.DEF on
 Intended reading: *'The shelf got the egg put on it.'*
 (Norwegian, Åfarli 1992, p. 19, ex. 44e.)

⁵³ Substituting an indefinite object does not serve to make this example completely acceptable.

The contrast between (4.68) and (4.69) suggests that a prepositional object can be pseudo-passivized when the entity that it denotes undergoes a conventional change of status⁵⁴ as a result of the action expressed by the sentence. Examples like (4.70) support this view.

- (4.70) **Jeg tror at brevet ble klistret frimerker på.**
 I believe that letter.DEF be pasted stamps on.
'I believe stamps were pasted on the letter.'
 (Norwegian, Den Dikken and Næss, 1993, p. 307, ex. 8b.)

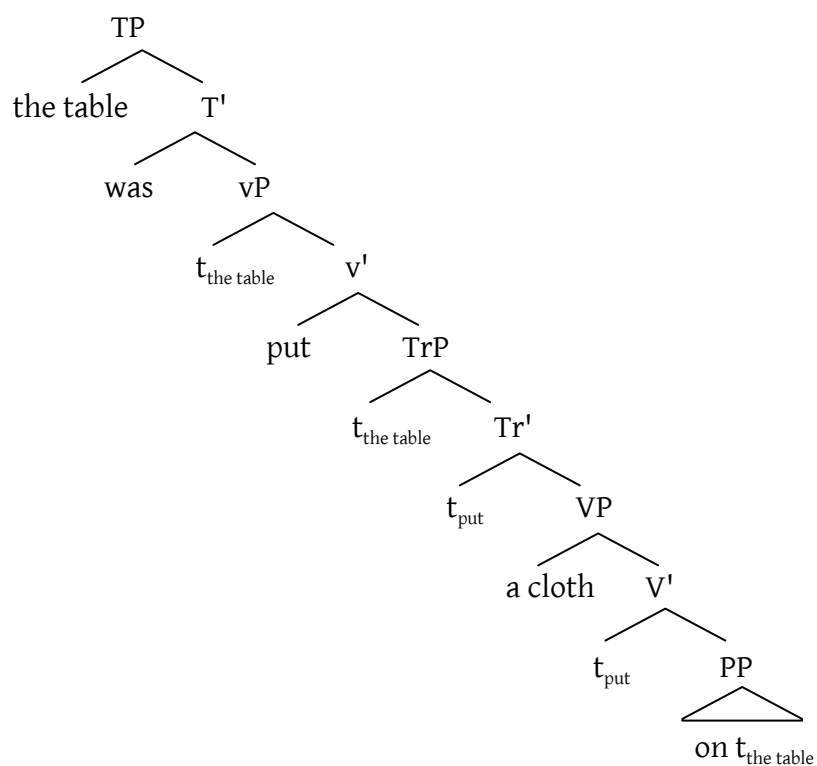
In this case the letter has gone from unstamped to stamped, a change that can be considered conventional due to the fact that it is the norm that a letter must be stamped before it can be mailed. Åfarli (1992) states that difficulties specifying the exact restrictions on pseudo-passives are longstanding (p. 18, fn. 13). I do not further investigate the nature of pseudo-passive future, but assume here that objects that can undergo pseudo-passive are objects that undergo a change of conventional status.

I would like to conjecture that pseudo-passive is possible in Norwegian because the objects that can pseudo-passivize are able to check the EPP features of Tr. Recall that Tr has both a probe with uninterpretable ϕ -features and an EPP-feature. The uninterpretable features of the probe are deleted under Agree with the direct object. The Case features of the direct object are also valued under Agree. In the usual case, the final step is that direct object moves to Spec Tr in order to satisfy the EPP feature of Tr. This final step is, however, not the only possibility open for the satisfaction of EPP features. In his analysis of locative inversion, Collins (1997b) proposes that the

⁵⁴ With conventional change of status, I mean a change of status related to function that the object is normally expected to fulfill. A table has a “covered” (i.e. ready for eating) status, but a shelf is not normally conceived of as having a status of “bearing an egg” that has a significance that transcends the isolated incident.

φ -features of T can be satisfied independently of its EPP features. Bowers (2002) adopts and extends this idea, assuming that the EPP-features of Pr (here, v) can be satisfied independently of its φ -features. Effectively this proposal means that when Agree obtains, the Case of the object can be valued in situ, and a different constituent can undergo Merge to satisfy the EPP. In line with these two proposals, I put forward that the EPP-feature of Tr can be satisfied independently of its φ -features. The derivation that I assume for the Norwegian pseudo-passive is illustrated in the following tree.

(4.71) Structure of Norwegian pseudo-passive



The direct object of the verb, **a cloth**, enters into Agree with Tr, but agreement features and Case are checked in situ. It is the object of the prepositional phrase that moves, stranding the preposition, in order to check the EPP feature of Tr.

With this background on pseudo-passive⁵⁵, I return to discussion of the parallel with EOC. The EOC reproduces the contrast between cases that admit pseudo-passivization and cases that do not admit pseudo-passivization. Example (4.72) shows that a prepositional object that is allowed to pseudo-passivize also can be the empty object of the EOC.

- (4.72) **Jeg kjøpte bordet og la en duk på.**
 I buy.PAST table.DEF and lay.PAST a cloth on
 'I bought a table and but a cloth on (it).'

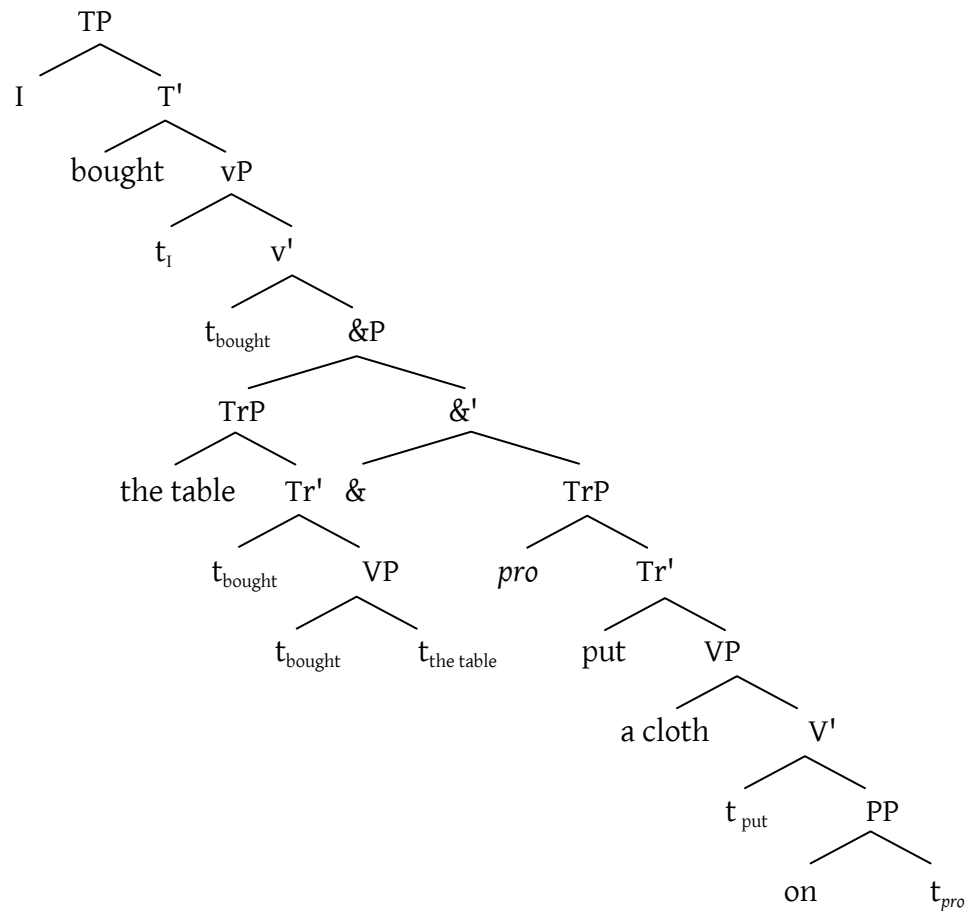
Example (4.73) demonstrates the converse. A prepositional object that **cannot** pseudo-passivize **cannot** be the empty object of the EOC.

- (4.73) ***Jeg kjøpte hylla og la egget på.**
 I buy.PAST shelf.DEF and lay.PAST egg.DEF on
 Intended reading: 'I bought the shelf and laid the egg on (it).'

The contrast between the EOC in (4.72) and (4.73) is related to the fact that the null object pronoun can check the EPP feature of Tr in (4.72), but is not able to undergo movement in (4.73).

⁵⁵ Ideally, there would be a readily available explanation for why exactly change-of-status objects are able to check the EPP feature of Tr, but I will not address this issue here. The proposed structure is stipulated yet plausible and most importantly is sufficient to explain the parallel between pseudo-passive and EOC.

(4.74) Structure of the Norwegian EOC in (4.72)



In this structure, the derivation precedes parallel to that of the pseudo-passive. The probe of Tr, which contains uninterpretable ϕ -features, enters into Agree with the object of **put**, namely **a cloth**. The uninterpretable Case features of **a cloth** are valued under Agree. The object, **a cloth**, does not, however, move, but rather remains in situ. The EPP-features of Tr are satisfied by the movement of the object of **on**, a null pronoun, represented *pro*, to Spec Tr.

4.2.1.4 Last resort configuration for Norwegian EOC

In Chapter 2, evidence was presented that underlying EOC is not only a standard coordination configuration (i.e. (4.46)'), but also a configuration in which the V1-

object c-commands the V2-object (i.e. the empty object). The latter is used in EOC receiving readings with V1-object binding the empty object, as is the case when the V1-object is a NP quantified with **ingen** or **hver**.

(4.75) = (2.93) **Han skrev ingen brev og sendte til England.**
 Han write.PAST no letter and sent.PAST to England
'He didn't write any letters and send them to England.'

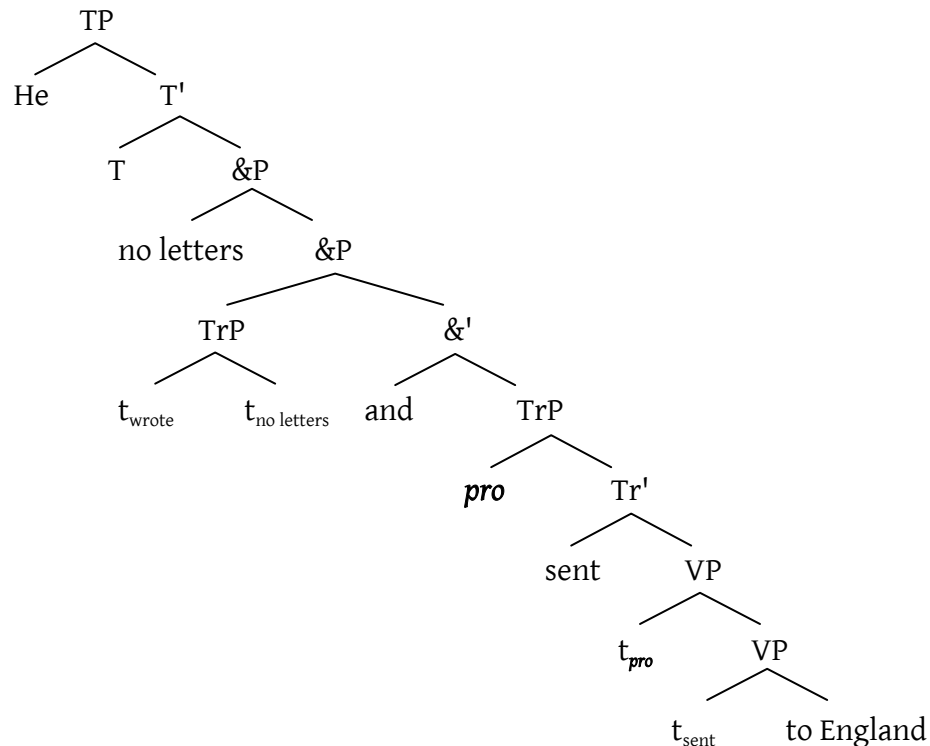
(4.76) = (2.97) **Han tok hver boks og åpnet (??den) med kniven.**
 he took every can and opened (??it) with knife.DEF
'He took every can and opened them with the knife.'
 (Norwegian, Johnsen 1988, p. 199, ex. 14a.)

I would like to put forward that the derivation in which the V1-object and V2-object end up in a c-command configuration has a last resort status. If the empty object in an EOC-example receives an E-type reading it does not also have the possibility of receiving a bound reading. The lack of a bound reading indicates that V1-object does not c-command the empty object in the general case. Apparently, the standard coordination configuration (4.46)' underlies EOC unless the quantified V1-object is one that cannot be associated with an E-type pronoun, in which case the c-command alternative can be used as a last resort.

At this juncture, we are ready to discuss the c-command alternative for EOC more concretely. A parsimonious account would necessitate only a minimal difference between the standard EOC derivation and the last resort derivation in which V1-object comes to c-command the empty object. I would like to propose, that that the standard EOC structure and the c-command alternative use exactly the same syntactic structure. The c-command configuration results when the V1-object moves out of its conjunct and adjoins to &P.

(4.77) = (2.112) *Last resort movement of V1-object for Norwegian EOC*

- V1-object c-commands V2-object



Movement of V1-object out of its conjunct occurs in violation of the Coordinate Structure Constraint. An account that analyzes the object of (4.75) and (4.76) as having undergone ATB-movement from both conjuncts to its surface position would be possible, but is suboptimal since it fails to account for the fact that overt pronouns are marginally possible in the place of empty objects in these cases (see (4.76) for the case of **hver**-quantified V1-object and footnote 7 in Chapter 2 for the case of negative indefinite). The fact that the movement necessary in (4.) is CSC-violating provides a plausible explanation for the last resort status of this derivation.

4.2.1.5 *Norwegian EOC summary*

The account developed here holds that EOC exists in Norwegian because EOC second conjuncts are one of the (very limited) environments in which null objects are licensed in Norwegian. It is clear that empty objects in Norwegian must be null pronouns since they give rise to E-type readings when they stand in relationship with an appropriate quantifier. This fact also makes it possible to conclude that there must be at least one structure underlying Norwegian EOC in which the V1-object does not c-command the V2-object. Such a lack of c-command is consistent with a coordination structure and not with an adjunction structure. It is argued that Norwegian null objects inherently satisfy the Formal Licensing Condition and that their distribution is determined by conditions necessary for the satisfaction of the Identification Condition. The Identification Condition is fulfilled by the Coupling Mechanism, which allows a null object to fix its reference via a definite description derived from an initial conjunct. The Coupling Mechanism explains why standard null objects can be interpreted with extrasentential reference, but Norwegian empty objects cannot be. In order for the Coupling Mechanism to apply, the null object must occur in a second conjunct and must occupy a maximal position within that conjunct. The resulting effect is that Norwegian EOC can only occur in cases of TrP coordination. In such cases, the object occupies the highest position in the conjunct. The fact that Norwegian EOC is coordination of TrP explains why second conjuncts cannot contain subjects, auxiliaries, verbs different in tense from V1, floated quantifiers, markers of negation and certain adverbs. The requirement that the pronoun occupy the maximal position in its conjunct is confirmed by the fact that empty objects are not possible in sentential complements of conjoined verbs. In this

case, the null pronoun is buried too low in its conjunct for the Coupling Mechanism to apply.⁵⁶ In the next section we move on to consideration of the structure of Baule. It is demonstrated that in Baule ESC the Coupling Mechanism is also at work and that it imposes the same structural requirements as in Norwegian.

4.2.2 *The structure of Baule ESC*

In Chapter 3, Baule ESC was argued to be coordination involving both null subjects and null objects, as marked in (4.78).

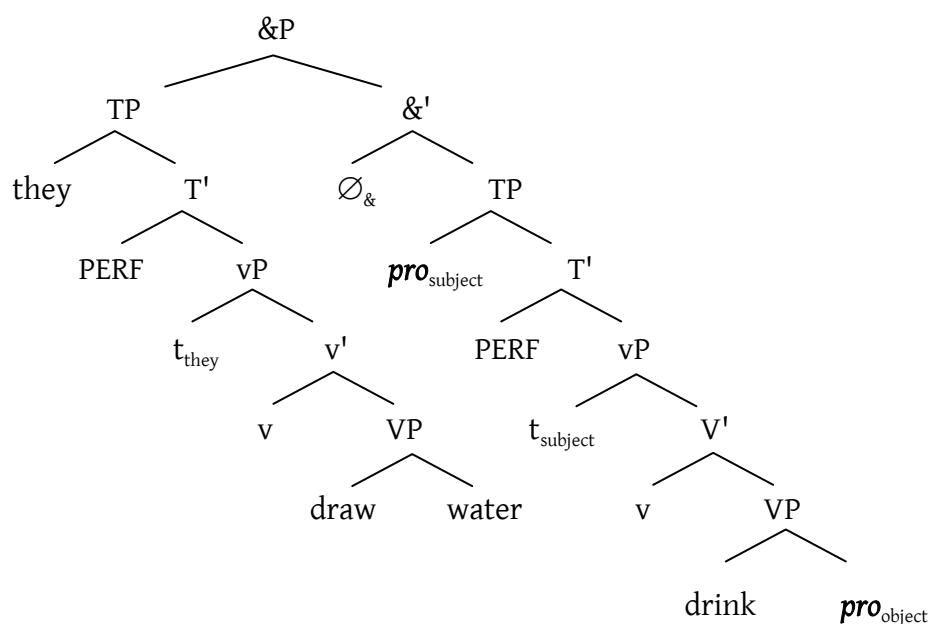
(4.78) = (3.1) **B-'a sa nzue *pro*_{subject} a non *pro*_{object}**
 3ps-PERF draw water ***pro*_{subject}** PERF drink ***pro*_{object}**
 'They have drawn water and drunk it.'

A preliminary structure was proposed that encoded the fact (which was concluded due to lack of E-type readings in ESC involving quantified V1-arguments) that there is no c-command relationship between elements of the first conjunct and elements of the second conjunct.

(4.79) = (3.123) ***Structure for the Baule ESC (preliminary)***

- Two clauses: Two representations of Tense/Aspect
- Two clauses: Two complete argument arrays
- Two clauses: V2-clause not a complement of V1
- V1-Object does not c-command V2-Object
- V1-Subject does not c-command V2-Subject

⁵⁶ I have not accounted for the fact that EOC cannot occur with conjunctions other than simple **and**. A potential explanation is that TrPs simply cannot be conjoined with other coordinators. Other coordinators, such as **but**, involve a contrast between the propositions expressed by the two conjuncts. Perhaps TrPs fail to express complete propositions because they do not contain subject positions and for this reason are not compatible with contrastive coordination.



A clear difference between Norwegian EOC and Baule ESC is that second conjuncts in Baule ESC must be at least of size TP since they contain a separate subject and can be marked with separate tense/aspect. The second conjunct is required to be interpreted with the same subject as the first and must have a tense compatible with that of the first. Recall from Section 4.1 that these constraints were derived from the Ambiguity Prohibition that requires that the Coupling Mechanism fix a unique referent for the null pronoun.

As mentioned above, the Coupling Mechanism in its original formulation is unable to account for the fact that Essential Combinations of verbs cannot occur in standard coordination.

- (4.39) = (3.118) *Standard coordination with Essential Combination of verbs (unacceptable)*
 *Aya fa-li fluwa-'n kpekun o man-ni mi.
 Aya take-COMPL book-DEF and 3ss give-COMPL 1so
 Intended reading: 'Aya took the book and gave it to me.'

A promising line of reasoning, mentioned at the end of Chapter 3, is that Essential-Combination verb pairs are unacceptable in standard coordination, since standard

coordination does not provide the appropriate conditions for coupling effects, which we now can equate with the Coupling Mechanism being used for pronoun interpretation. Under such a view, Accidental-Combination verb pairs should be acceptable in standard coordination since they involve null objects licensed independently of the Coupling Mechanism, which indeed they are.

(4.80) = (3.106) *Standard coordination with Accidental Combination of verbs (acceptable)*
 ɔ̌ to-li oflɛ kpekun ɔ̌ di-li.
 3ss buy-COMPL papaya and 3ss ate-COMPL
 'S/he bought papaya and ate it.'

In Norwegian, it has been shown that the Coupling Mechanism can be used to satisfy the Identification Condition only for null pronouns that occupy a maximal structural position. Further development of the account of Baule ESC makes it possible to attribute the unacceptability of the coordination involving an Essential-Combination verb pair in (4.39) also to the fact that the null pronoun object of Essential-Combination V2 cannot be licensed unless it occupies a maximal structural position in its conjunct.

Motivation for this proposal derives from two examples that show that in ESC, pronouns which are buried too far within their conjuncts are unacceptable. First, notice that in the ESC structure in (4.79), the null subject clearly occupies the highest structural position. Recall that I assume that Formal Licensing is fulfilled by the presence of the subject tone and that the null subject additionally needs to satisfy the Identification Condition. The fact that its position is playing a critical role in the licensing of the null subject is confirmed by the fact that ESC is no longer possible if the second conjunct begins with a sentence level adverb.

(4.81) = (3.74) *Be tra-li kangale-'n atrekpa *pro*_{subject} di-li *pro*_{object}
 3ps catch-COMPL panther-DEF probably *pro*_{subject} eat-COMPL *pro*_{object}
 Intended reading: 'They caught the panther and probably ate it.'

In such a case, the second subject must be overt, making the sentence an RSC.

(4.82) = (3.77) Be tra-li kangale-'n atrekpa be di-li *pro*_{object}
 3ps catch-COMPL panther-DEF probably 3ps eat-COMPL *pro*_{object}
 'They caught the panther and probably ate it.'

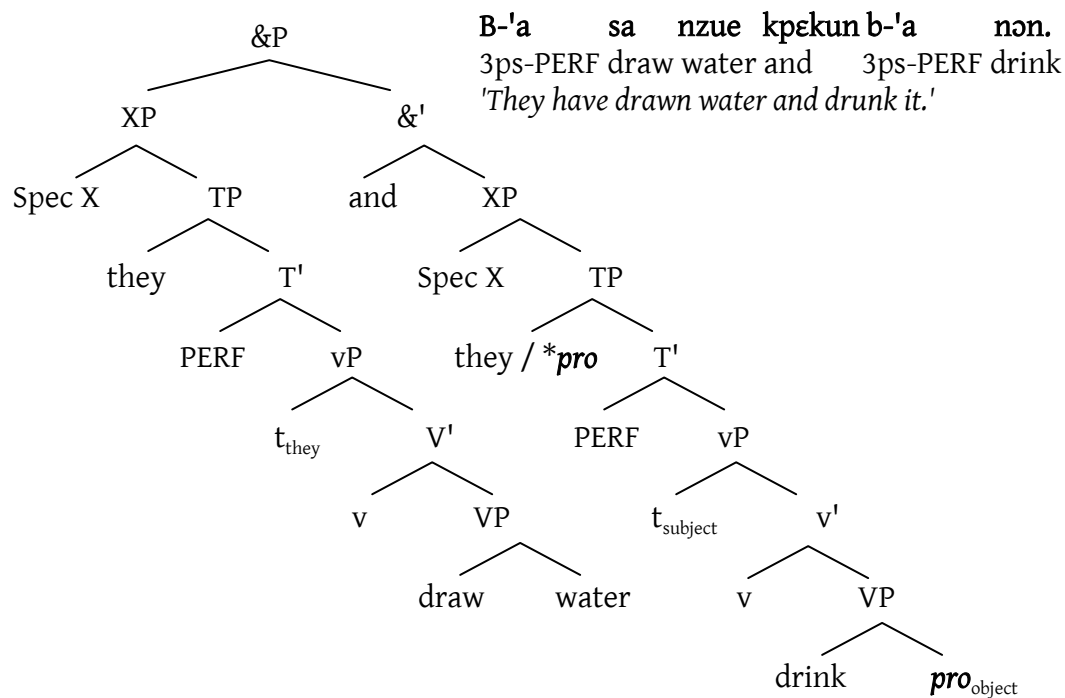
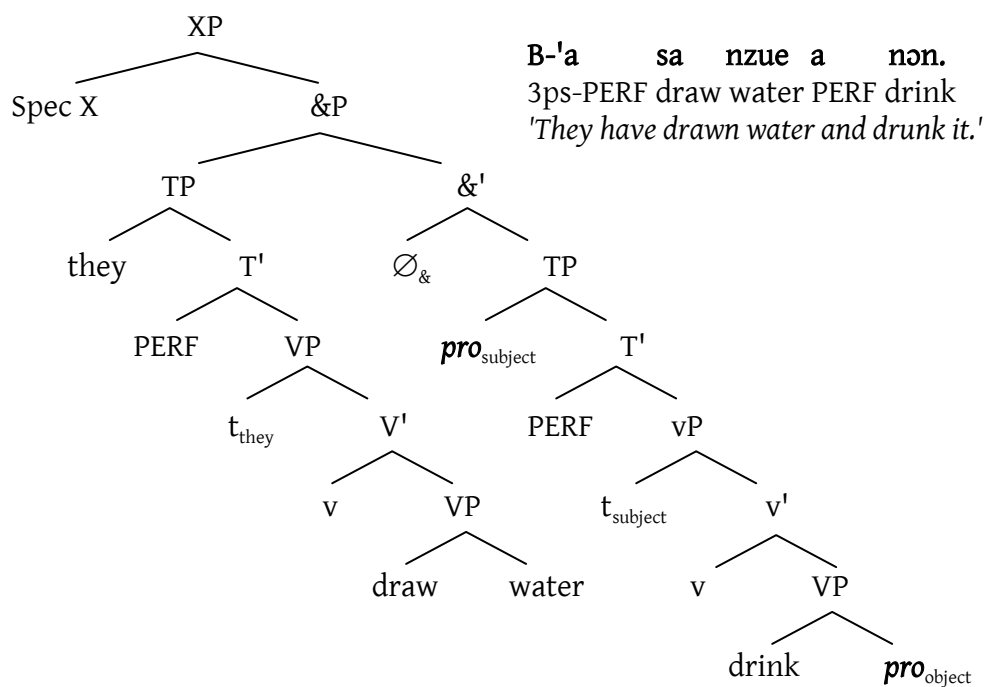
Second, Essential-Combination null objects are licensed in RSC, but cannot occur in a sentential complement of V2.

(4.83) = (3.87) ɔ fa-li akɔ'n ɔ man-ni talua mun.
 3ss take-COMPL chicken.DEF 3ss give-COMPL girl DEF.PL
 'S/he gave the girls the chicken.'

(4.84) = (3.88) *ɔ fa-li akɔ-'n se-li ke ɔ man-ni talua mun.
 3ss took chicken-DEF say.COMPL that 3ss gave girl DEF.PL
 Intended reading: 'S/he took the chicken and said she gave it to the girls.'

This contrast can be neatly attributed to the fact that the null object cannot exit the complement, and therefore cannot attain a position high enough in its conjunct to have access to the Coupling Mechanism. The object in (3.88) cannot leave its complement since Baule is a language without A'-movement.

These examples provide encouragement to pursue the idea that null pronoun arguments of V2 cannot fulfill Identification in standard coordination because they cannot attain maximal positions in their conjuncts in a standard coordination structure. Under such an analysis the ESC structure and the standard coordination structure would differ in the level of constituents that they coordinate.

(4.85) *Structure for standard coordination*(4.86) *Structure for Empty Subject Construction (ESC) (final)*

The coordination structure in (4.85) combines conjuncts larger than TP, labeled here XP. The identity of XP will be explored in the following discussion. I maintain that a *pro* subject of the second conjunct is not possible in standard coordination because it is buried in its conjunct below the XP. The ESC structure in (4.86) involves coordination of TPs and the XP projection is external to both conjuncts. The *pro* subject of the ESC structure occupies the highest position in its conjunct and therefore has access to the Coupling Mechanism.

It is not only the null subject of V2 in (4.86) that is coupled; the null object of V2 is coupled as well. Since **di**, 'eat', is an Object Drop verb, this is an example of a null object that is interpreted via the Coupling Mechanism due to interpretational convention and not because it is necessary for the satisfaction of Identification. That the null object in (4.86) has access to the Coupling Mechanism is rather unexpected, since it does not appear to occupy the maximal position in its conjunct. The highest position in the conjunct is Spec T and is occupied by the subject. I would like to put forward that for Baule objects the standard, post-verbal object position counts as the highest position in the clause. Since there is no A'-movement in Baule, there is no possibility for the object to move any higher. Thus, the position immediately following V2 is the maximal position in the conjunct in the sense that it is the maximal position that can be attained by the object.

Now we can return to considering (4.39), the example demonstrating the Essential-Combination verb pairs are not compatible with standard coordination.

(4.39) *Standard coordination with Essential Combination of verbs (unacceptable)*

*Aya fa-li fluwa-'n kpekun ɔ man-ni mi *pro*.

Aya take-COMPL book-DEF and 3ss give-COMPL 1so

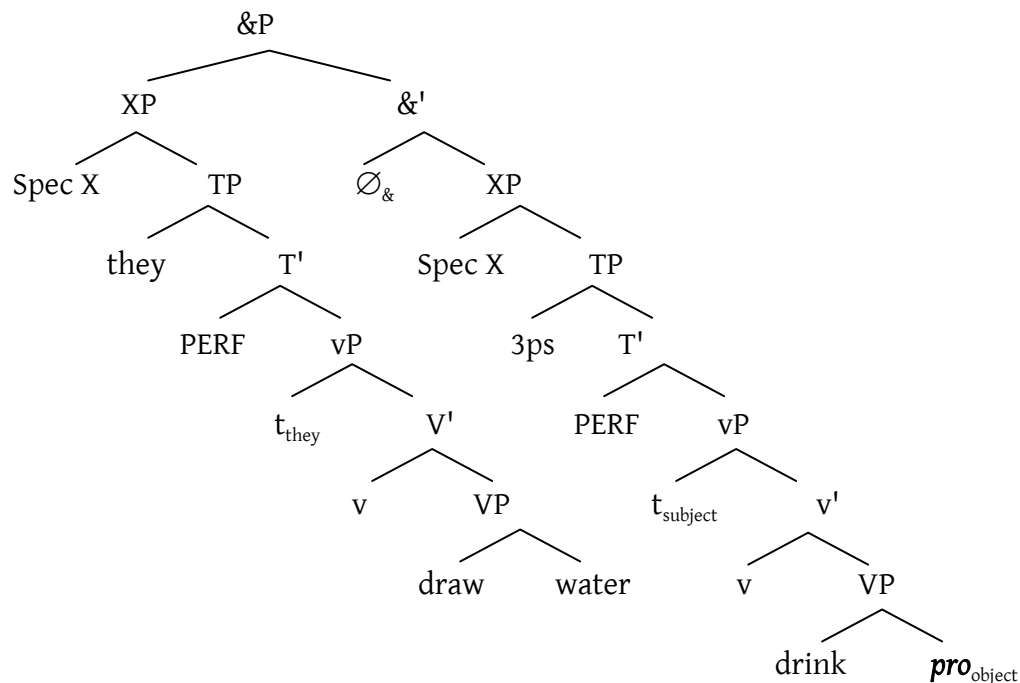
Intended reading: 'Aya took the book and gave it to me.'

The account I propose holds that this example is unacceptable because the null object of V2, **man**, must make use of the Coupling Mechanism in order to fulfill Identification. It does not, however, have access to the Coupling Mechanism since standard coordination combines conjuncts of size XP, as shown in (4.85). When a null object occurs in a conjunct of size XP it is buried too low in the conjunct to have position that counts as a maximal position for access of the Coupling Mechanism.

Now we turn to consideration of the structure underlying RSC. Recall that the descriptive generalization formulated in Chapter 3 concerning the dual nature of RSC: The RSC resembles the ESC in that it can involve Essential-Combination verb pairs, but resembles standard coordination in that it can fail to induce coupling effects. I would like to advance the proposal that either the standard coordination structure in (4.85) or the ESC structure in (4.86) can give rise to the surface string of RSC. In cases involving Essential-Combination verb pairs, the RSC must necessarily make use of the Coupling Mechanism since the null object of V2 cannot be licensed as a standard pronoun. Access to the Coupling Mechanism is only possible in a TP-coordination structure. In order for the V2 null object to be licensed, Essential-Combination RSC must choose the ESC structure in (4.86). In all other cases, RSC can chose be the result of either coordinated XPs or coordinated TPs. It is exactly when RSC coordinates XPs that it is possible to get de-coupled readings for V2-objects.

(4.87) XP-coordination structure of RSC (Same as structure for standard coordination)

B-'a sa nzue b-'a nɔn.
 3ps-PERF draw water 3ps-PERF drink
'They have drawn water and drunk it.'



In the RSC, Spec T of the second conjunct contains a subject marker, labeled in the tree as **3ps**. The subject does not interfere with the Coupling Mechanism since it does not introduce a new subject into the construction and therefore does not create further indexing possibilities for the definite descriptions derived by the Coupling Mechanism. Recall that if a definite description has multiple possible indexings it is excluded by the Ambiguity Prohibition.

Accidental Combinations of verbs are compatible with either the XP-coordination structure or the TP-coordination structure since the null objects that they contain do not rely on the Coupling Mechanism for Identification. RSC compatibility with

both structures explains why in Chapter 3 it was necessary to choose a certain combinations of verbs to demonstrate the same-subject constraint and the TAM matching constraint in RSC. Only Essential-Combination verb pairs are sensitive to which structure they occur in since they need appropriate structural conditions in order to license their null pronouns via the Coupling Mechanism.

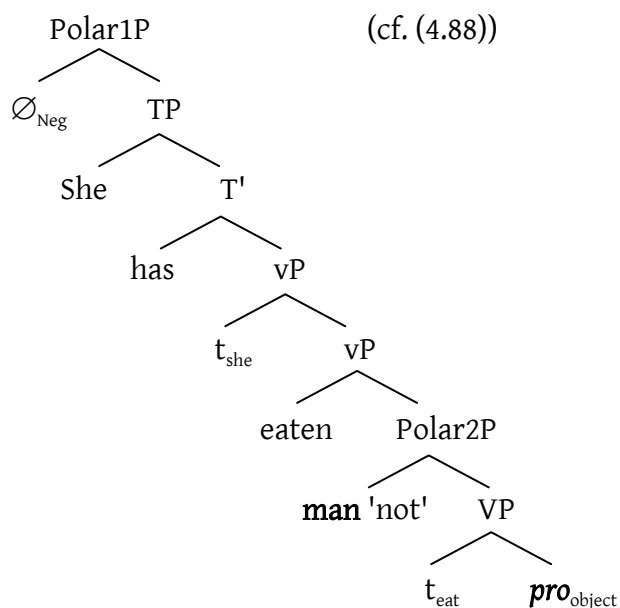
At this juncture we turn to discussion of the nature of XP. A promising candidate for XP is a polarity phrase, an idea motivated by the facts of negation in Baule. In Baule, there are two different negation markers that occupy two different positions with respect to the verb. In the declarative the negation marker is **man** and follows the verb.

- (4.88) **ɔ-'a di man.**
 3ss-PERF eat NEG
 '*She hasn't eaten it.*'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 191)

In the imperative, the negation marker is **nan** and precedes the verb.

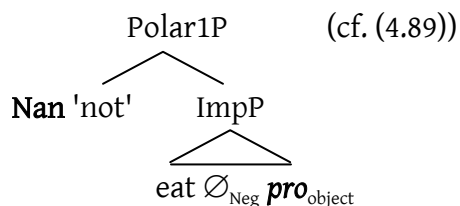
- (4.89) **Nan di!**
 NEG eat
 '*Don't eat it.*'

I would like to advance the proposal that Baule has two projections involved with negation, one corresponding to each of the two negation markers. The higher projection, which I will call Polar1P, directly dominates TP and houses the negation marker **nan**. The lower projection, which I will call Polar2P, directly dominates VP and houses the negation marker **man**. In the declarative, Polar1 is a null negative element, \emptyset_{Neg} . Negative Polar1 selects negative TPs, i.e. TPs containing negative Polar2P. I will assume that derivations in which negative Polar1 selects a TP that contains positive Polar2P fail because the polarity features of Polar2 must be checked with those of Polar1 by raising at LF.

(4.90) *Baule main clause with representation of negation*

Polar1P in this structure can be considered an instantiation of the high sigma phrase, located above TP, proposed by Laka (1990) for Basque. SigmaP houses negation and affirmation. A high negative projection also plays a role in accounts of negation given by Zanuttini (1997) and Cinque (1999).

In the imperative, the situation is reversed: an overt Polar1, **nan**, selects for a negated projection containing a null negative Polar2 head, \emptyset_{Neg} .

(4.91) *Baule imperative with representation of negation*

In order to remain agnostic on the internal structure of imperatives, which is not the focus of this discussion, I have labeled the coordinated projections ImpP. I conjecture that there is some principle requiring parsimony of overt negation that prevents both negative markers from ever being simultaneously overt.

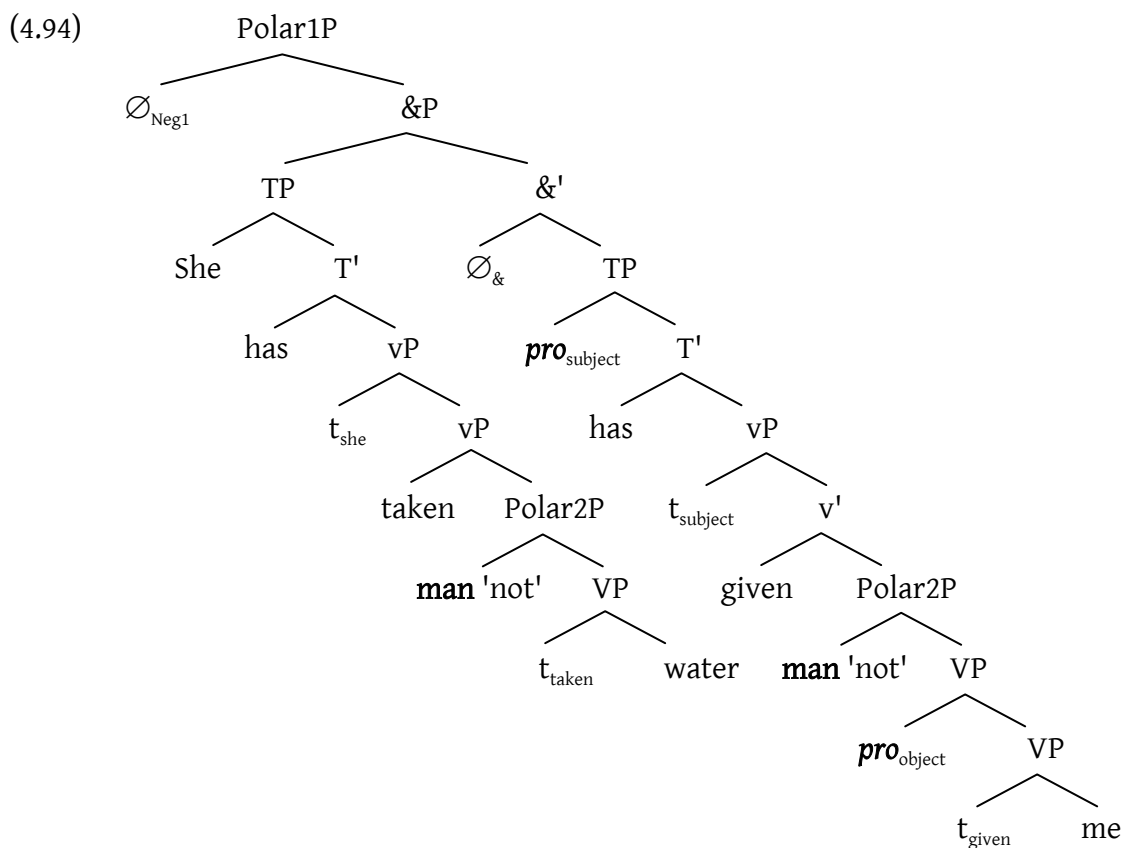
Evidence that Baule negation involves two projections derives from the interpretation of negated ESC/RSC.

- (4.92) = (3.69) **Nan to di!**
 NEG buy.IMP eat.IMP
'Don't buy and don't eat it.'

In this imperative example, a single marker of negation serves to negate both verbs independently. This imperative enjoins to neither buy nor to eat. It would be difficult to explain why both verbs must be negated independently if there was not a separate (abstract) negator associated with each verb.

In the declarative corresponding to (4.89), negation must be marked on each verb.

- (4.93) **ɔ-'a fa man ɔ-'a man man mi**
 3ss-PERF take NEG 3ss-PERF give NEG 1so
'S/he didn't give me it.'



Baule ESC is the coordination of two TPs dominated by a single Polar1P. This Polar1P has the effect of synchronizing the polarity of the conjuncts. I assume that Polar2 has polarity features that must be checked by raising to Polar1 at LF. If Polar2 is the negative marker (i.e. **nan** in the declarative and \emptyset_{Neg} in the imperative) it must raise and check against a Polar1 that has negative features. Since the same Polar1 serves to check features of both Polar2 heads, both Polar2 heads must have the same polarity.

Recall from Chapter 3, that in the imperative an Accidental Combination of verbs can contain either one marker of negation, as (4.92) or two markers of negation, as in (4.95).

(4.92) = (3.69) **Nan to di.**
 NEG buy.IMP eat.IMP
'Don't buy and don't eat it.'

(4.95) = (3.70) **Nan to nan di.**
 NEG buy.IMP NEG eat.IMP
'Don't buy and don't eat it.'

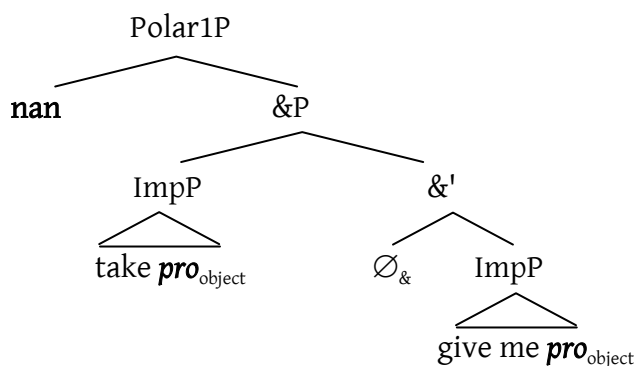
Because no subject is marked in the imperative, these constructions cannot be uniquely identified as negation of ESC or negation of RSC. Equating XP with Polar1P makes it possible to explain this data. The distribution of markers of negation in the imperative of an Accidental Combination of verbs can be neatly derived from the fact that there are two structures underlying RSC. Example (4.92) is then the negation of an Accidental Combination of verbs in a TP-coordination structure (i.e. either an ESC or an RSC) and (4.95) is negation of an Accidental Combination of verbs in an XP-coordination (Polar1P-coordination) structure (i.e. RSC).

Now it is possible to return to consideration of why negation may be marked only once in the imperative of Essential-Combination ESC.

(4.96) = (3.72) **Nan fa** (***nan**) **mɛn** **i**.
 NEG take.IMP (*NEG) give.IMP 3so
'Don't give that to him.'

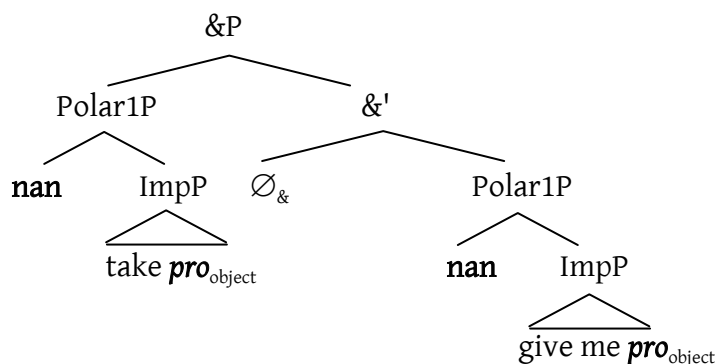
The null object of V2 in Essential-Combination ESC needs the Coupling Mechanism to fulfill Identification. It has access to the Coupling Mechanism when no layer of structure intervenes between ImpP and &P.

(4.97) Baule ESC structure (admits Essential Combinations of verbs)



When Polar1P intervenes between &P and ImpP, as is the case in the two-sentence RSC structure, the result is ungrammatical, since the object can no longer access the Coupling Mechanism.

(4.98) Baule RSC structure (does not admit Essential Combinations of verbs)



The presence of the intervening Polar1P is signaled by the second **nan** in the string in (4.96). It is clearly the presence of this element which makes (4.96) unacceptable.

In sum, the proposal I have developed for Baule ESC is able to account for all of the characteristics of Baule ESC introduced in Chapter 3. The same-subject constraint and the tense-matching constraint arise due to the requirement imposed by the Ambiguity Prohibition that the definite description used to recover reference of a null pronoun be unique (and thus pick out a unique referent). The polarity matching constraint arises because Baule ESC is dominated by a single polarity projection Polar1P that coordinates the polarities of the two conjuncts. The coupled pronoun cannot be contained in a conjunct with a sentence-level adverb because this adverb prevents the null pronoun from reaching a maximal position within the clause and having access to the Coupling Mechanism. Similarly, the null pronoun cannot reach the necessary maximal position if it is contained in a sentential conjunct. A loose end that needs to be tied up is the behavior of VP-level adverbs, which is addressed in the next section.

At this point I would like to address the question of why Baule does not have EOC, i.e. coordination of two TrPs. In Baule, there is apparently no coordination at all of constituents below the TP level. Recall that standard coordination always requires an overt subject.

- (3.47) ɔ to-li ofle kpekun *(ɔ) di-li (*i).
 3ss buy-COMPL papaya and *(3ss) ate-COMPL (*3so)
 'S/he bought papaya and ate it.' (Baule)

Recall also that a null subject is always present in the second conjunct of covert coordination.

- (3.23) ɔ sú fà tánnì pro 'màn Kouadio.
 3ss PROG take cloth give Kouadio
 'He's giving the cloth to Kouadio.'
 (Baule, Creissels and Kouadio N'Guessan 1977, p. 423)

The presence of a floating subject tone provided prime evidence for the presence of this subject. I would like to conjecture that Baule does not coordinate constituents lower than TP. The reason for this prohibition is that the finite verb cannot be projected without the subject tone, which serves to mark tense/aspect/mode marking. I will leave investigation of the possible source of such a restriction to future work.

4.2.2.1 Distribution of adverbs

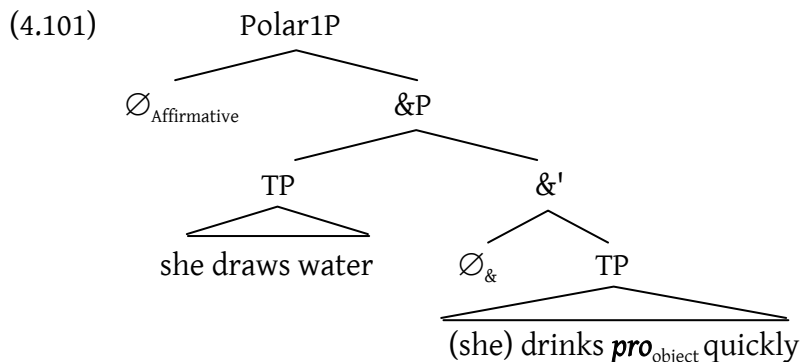
In Chapter 3, a curious contrast between ESC/RSC and standard coordination with respect to the scope of adverbs was introduced. In the ESC/RSC and adverb following V2 can modify either V2, or it can modify the entire construction.

- (4.99) = (3.82) **Kɛ nzuewe kun Aya, ɔ sa nzue (ɔ) nɔn i ndɛndɛ.**
 When thirst kill Aya 3ss draw water (3ss) drink 3so quickly
'When Aya is thirsty, she draws water and drinks it quickly.'

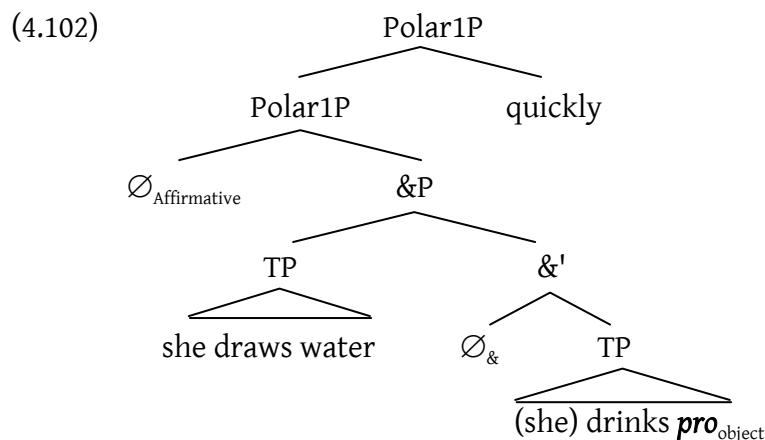
In standard coordination, on the other hand, and adverb following V2 modifies only V2.

- (4.100) = (3.84) **Kɛ nzuewe kun Aya, ɔ sa nzue ndɛndɛ kpɛkun ɔ nɔn.**
 When thirst kill Aya 3ss draw water quickly and 3ss drink
'When Aya is thirsty, she draws water and drinks it quickly.'

I would like to relate this contrast to the position of the adverb. If the adverb is adjoined to VP, then it is interpreted as modifying only the event expressed by V2.

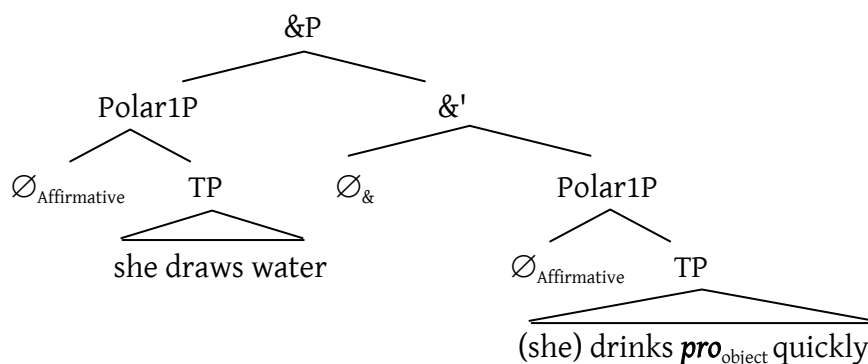


If the adverb is adjoined higher, for instance to Polar1P, then it is interpreted as modifying both verbs.



In the standard coordination, the adverb also has two possibilities: it can adjoin to VP or to Polar1P. However, since Polar1P does not dominate both conjuncts these two possibilities do not correspond to distinct interpretations.

(4.103) Standard Coordination



This account is quite reasonable, but has a rather obvious deficiency. Recall that the ambiguity of adverb scope holds also for examples in which the adverb modifies V1.

- (4.104) = (3.80) **Kε nzuewe kun Aya ɔ sa nzue ndende (ɔ) nɔn.**
 When thirst kill Aya 3ss draw water quickly (3ss) drink
 'When Aya is thirsty, she draws water and drinks it quickly.'

This sentence means that either she only drew the water quickly, or that she both drew and drank quickly. Apparently, a V1-adverb can be interpreted as adjoined to Polar1P and taking scope over both conjuncts without actually being adjoined to Polar1P. Example (4.104) seems to suggest that a VP-adverb has two interpretational possibilities, rather than two positional possibilities. Either the adverb can be interpreted with local scope, or it can be interpreted with the scope of the dominating Polar1P.

4.2.3 *Chapter summary*

This chapter has, building on Chapters 2 and 3, proposed an account for the licensing of null pronouns occurring in Norwegian EOC and Baule ESC/RSC. Null pronouns in EOC/ESC/RSC present a particular challenge since they exhibit referential coupling effects,⁵⁷ which makes them resemble traces or variables more closely than they resemble canonical null pronouns. Traces and variables, however, are licensed in c-command configurations, whereas it is clear that coupled null pronouns in EOC/ESC/RSC occur in configurations which do not involve c-command, since they receive E-type readings. For this reason, the account starts with the assumption that coordination structures underlying EOC/ESC/RSC. The size of the coordinated projection can be established by analyzing the restrictions imposed on the second conjunct and is established to be TrP for Norwegian EOC and TP for Baule ESC.

The account proposed here maintains that null objects in Norwegian and null subjects and objects in Baule inherently fulfill the Formal Licensing Condition and

⁵⁷ Recall that referential coupling means that a pronoun must be understood as referring to the same entity as another nominal in the construction and cannot have extrasentential reference.

that their surface distribution is derived from the fact that they must also fulfill the Identification Condition, which is possible only in a strictly limited set of cases. In particular, the Identification Condition can be fulfilled in EOC/ESC/RSC if a null pronoun can fix its reference via an interpretational strategy called the Coupling Mechanism. The Coupling Mechanism uses definite descriptions to recover reference for null pronouns in nearly exactly the same way standard E-type pronoun accounts use definite descriptions to provide interpretations for (overt) E-type pronouns. Two conditions must be satisfied for the Coupling Mechanism to apply. First, the definite description that is derived must guarantee uniqueness. If more than one appropriate definite description can be built, or if the definite description is ambiguous between referring to one or more referents, the Coupling Mechanism cannot be used. The uniqueness guarantee is implemented by the Ambiguity Prohibition and the Matching Constraint. Second, the null pronoun must occupy a maximal position within its conjunct in order to have access to the Coupling Mechanism. The requirement of maximal position was motivated by the observation that null elements often require maximal positions in order to be associated with referents derived from extraclausal linguistic material or entities in the discourse context. Further support for maximal positions providing access to the Coupling Mechanism was derived from the fact that pronouns "buried" too deeply in their clauses (such as pronouns in sentential complements) cannot be coupled. The requirement of maximal position makes it possible to explain the difference between ESC and standard coordination in Baule. I proposed that ESC coordinates two TPs under a common XP whereas standard coordination coordinates two XPs. The presence of XP within the conjunct of standard coordination prevents pronouns in this conjunct from occupying the top positions that they need to access the Coupling Mechanism. I argued that evidence from negation marking in the negative

imperative suggests that XP should be equated with Polar1P, a projection related to negation and located high in the structure. Essential Combinations of verbs can occur in the ESC/RSC structure (i.e. TP coordination in (4.86)) structure, but not in standard coordination structure (XP coordination in (4.85)) because Essential-Combination V2 can have a null object only when that null object has access to the Coupling Mechanism for Identification. Accidental Combinations of verbs can occur in either structure since the null objects that they involve are not dependent on the Coupling Mechanism for licensing. I have observed that in Baule the Coupling Mechanism has the status of a default interpretation strategy and is used to interpret pronouns in the ESC-structure independently of whether or not it is necessary for Identification. It is for this reason that null objects of Accidental-Combination ESC exhibit coupling effects even though they are not dependent on the Coupling Mechanism for licensing.

CHAPTER FIVE
SLF and AOG:
SUBJECT GAPS IN CONJUNCTS AND
OBJECT GAPS IN ADJUNCTS

This chapter examines *SLF-coordination* and the *Adjunct Object Gap (AOG) construction*, two constructions that occur in Dutch and German. These constructions have been chosen for investigation because they contain an unexpressed argument displaying similar behavior to the empty object of Norwegian EOC and the null subject/object of Baule ESC. In particular, a case can be made that this argument exhibits coupling effects. The goal of this chapter is to determine in how far the null-pronoun analysis proposed for EOC/ESC can be extended to account for these two constructions. The Coupling Mechanism has the potential to amend the shortcomings of the null-subject accounts for SLF and the AOG construction that have been proposed by previous authors.

5.1 The SLF Construction in Dutch and German

Germanic languages exhibit a type of clausal coordination in which a nominal occupying a non-initial position serves as the subject of multiple conjuncts.

- (5.1) **Ineens ben ik moe en ga op het luik zitten.**
At once am I tired and go on the door sit
'All at once I am tired and go sit on the door.'
(Dutch, van Zonneveld 1992, p. 404, ex. 7a. from a novel by Franz Pointl)

This construction is widely referred to as SLF (*Subjektlücke in finiten Sätzen*) coordination, a designation introduced by Höhle (1983).⁵⁸ Höhle (1983) informs us

⁵⁸ Wunderlich (1988) calls the construction SGF, abbreviating *Subject Gap, Finite*, an English version of SLF. Other terminology used in the literature include *Subject Lacking (in a) F(inite) structure* (Höhle

that examples of German coordination in which a non-initial subject serves for both conjuncts are mentioned by Behagel (1928, §1192b) and discussed by Kunze (1972) and Hankamer (1973). However, it was Höhle's (1983) manuscript itself that inspired the beginning of intense interest in such coordination in German and Dutch.^{59,60} The following are two additional examples that frequently occur in treatments of the SLF construction.

- (5.2) **Das Gepäck ließ er fallen und rannte zum Hinterausgang.**
 the baggage let he fall and ran to.the rear.exit
'He dropped the baggage and ran to the rear exit.'
 (German, Heycock and Kroch 1994, p. 258, ex. 1b.⁶¹)
- (5.3) **?Na Zwolle rijdt deze trein verder als intercity naar Groningen**
 after Zwolle goes this train further as intercity to Groningen
en zal alleen stoppen te Assen.
 and shall only stop at Assen
'After Zwolle this train goes on as an intercity to Groningen and will only stop in Assen.' (Dutch, Zwart 1991, ex. 1b.)

1990), *Subject Deletion Construction* (Zwart 1991) and *Conjunct Internal Factor* (CIF) construction (Kathol 1995).

⁵⁹ Some Dutch speakers do not accept SLF constructions at all or accept some, but not others. It is not clear what characteristic makes Dutch SLF examples unacceptable. Heycock and Kroch (1994) claim that Dutch SLF is more acceptable if the sentence initial element is an adjunct than if it is an argument (fn. 2). This pattern may be related to a general resistance in Dutch to topicalized arguments, however. According to van Zonneveld (1992), for SLF to occur in Dutch it is necessary that the topicalized constituent can be interpreted naturally with narrow scope (p. 409). I have not found speakers to be consistent in this regard, however.

⁶⁰ Several of the Norwegian EOC constructions in Western's list, such as (i), are actually SLF.

- (i) **Naar jeg gikk hjem igjen, skød jeg alltid en eller anden Fugl**
 When I go.PAST home again shoot.PAST I always one or other bird
og stak i Væsken.
 and stuck.PAST in bag.DEF
When I returned home, I always shot one or another bird and stuck it in my bag.
 (Norwegian, from Chapter 2, Creider 1986, from Hamsun)

I will not be discussing SLF in Norwegian, but limit myself to German and Dutch.

⁶¹ Heycock and Kroch (1994) is a somewhat shortened version of Heycock and Kroch (1993). Examples and arguments cited from Heycock and Kroch (1994) also appear in Heycock and Kroch (1993).

The intensity of the discussion that followed Höhle (1983) can be attributed to the fact that the surface string of the SLF construction suggests two different, but equally plausible, alternatives for its analysis. If the subject is considered to be common to both conjuncts, it is necessary to explain why the finite verb and the topic are allowed to move to their surface positions in violation of Ross' (1967) Coordination Structure Constraint (CSC). On the other hand, if the subject is considered to be internal to the first conjunct, it is necessary to explain why the second conjunct has no overt subject. The fact that there is no immediately obvious way of choosing between these two potential accounts has kept interest in the SLF construction alive for more than two decades.

In the literature, two authors have proposed a null-subject account for SLF. Van Zonneveld (1992) analyzes the SLF construction as coordination of two full clauses in which rightmost element of the second conjunct is an unpronounced ("reduced") subject, marked *pro* in (5.1)'.
(5.1)'

- Ineens ben ik_i moe en *pro*_{i/*k} ga op het luik zitten.**
At.once am I_i tired and *pro*_{i/*k} go on the door sit
'All at once I am tired and go sit on the door.'
(Dutch)

In the account of Hartmann (1994), the second-conjunct subject is an empty category that follows the finite verb. Hartmann (1994) argues that this empty category is a case of *pro*.

- In den Wald ging ein Jäger_i und fing *ec*_{i/*k} einen Hasen.**
Into the woods went a hunter_i and caught *ec*_{i/*k} a hare
'The hunter went into the woods and caught a hare.'
(German, Hartmann 1994, p. 6, ex. 8)

Familiar challenges face a null-subject account of the SLF. If the unexpressed second-conjunct subject is to be analyzed as a null subject, it cannot be a standard

occurrence of subject *pro*, since it occurs in languages that do not generally license null subjects and is constrained in its distribution and reference in a way that canonical null subjects are not. SLF-type subject *pro* may only occur in the second conjunct of coordination and cannot occur in simple sentences, as shown in (5.5).

- (5.5) **pro* **Ga op het luik zitten.**
 pro go on the door sit
 Intended reading: '*I go to sit on the door.*'
 (Dutch)

SLF-type subject *pro* can only be interpreted as referring to the subject of the first conjunct, as indicated by the subscripts. In this section, I investigate whether the account used to address these challenges in the cases of Norwegian EOC and Baule ESC can be extended to Dutch/German SLF.

In 5.1.1, I review the data of the SLF construction. I will use the E-type reading test to argue that a subset of SLF constructions must be analyzed as containing a null subject. In 5.1.2, I discuss standard, subject-initial (non-SLF) clausal coordination and argue, as does Hartmann (1994), for the existence of two underlying structures, one involving Across-The-Board (ATB) subject extraction and one involving a null second-conjunct subject. In section 5.1.3, I survey alternative analyses of SLF and discuss their strong points and their deficiencies before developing my own account. I argue that SLF must have two underlying structures, an ATB-structure and a null-subject structure. This proposal is parallel to the proposed account of subject-initial coordination. In the null-subject structure, the null subject is shown to satisfy the Formal Licensing Condition and the Identification Condition with mechanisms similar to those involved in licensing null pronouns in Norwegian EOC and Baule ESC.

5.1.1 Characteristics of the SLF Construction ⁶²

The section presents data that provide a descriptive overview of SLF.

5.1.1.1 Constraint on reference of second-conjunct subject

The verbs of the two conjuncts of SLF (V1 and V2) must be interpreted as having the same subject. For example, (5.2) cannot mean *'He dropped the baggage and he (someone else) ran to the rear exit.'* A small modification of (5.2) yields (5.6), an example in which the first conjunct contains nominals supplying two plausible referents.

- (5.6) **Das Kind ließ er fallen und rannte zum Hinterausgang.**
 the child let he fall and ran to.the rear.exit
'He dropped the child and he (the subject) ran to the rear-exit.'
**'He dropped the child and he (the child) ran to the rear-exit.'*
 (German)

Example (5.6) shows that it is not possible for the V2-subject to be related to a non-subject argument of V1.

5.1.1.2 Constraint on intervention between conjunction and V2

In SLF, V2 must directly follow the conjunction. An element, such as an adverb as in (5.7), may not intervene.

⁶² Coordination of dependent clauses exhibit patterns resembling SLF.

- (i) **Ich habe es gesagt, weil gestern der Jäger in den Wald gegangen ist**
 I have it said because yesterday the hunter in the woods gone is
und heute einen Hasen gefangen hat.
 and today a hare caught has
'I said it because the hunter went into the woods yesterday and caught a hare today.'
 (German)

Such examples pose the same analysis difficulties as main clause SLF. If we assume that the first conjunct contains that temporal adverb **gestern** 'yesterday', then we need to explain why the second conjunct does not contain a subject. On the other hand, if we assume that the subject is common to both conjuncts we need to explain, how it is possible for **gestern** 'yesterday' to move in violation of the CSC out of the first conjunct only. The following investigation does not discuss such examples.

- (5.7) **Gisteren kwam ik naar binnen**
 yesterday came I to in
en (*snel/*warschijnlijk) heb de brief geopend.
 and (*quickly/*probably) have the letter opened
 Intended reading: *'Yesterday I came in and quickly/probably opened the letter.'*
 (Dutch)

If an adverb appears in the second conjunct, it is required to follow V2.

- (5.8) **Gisteren kwam ik naar binnen**
 yesterday came I to in
en heb (snel/warschijnlijk) de brief geopend.
 and have (quickly/probably) the letter opened
'Yesterday I came in and quickly/probably opened the letter.'
 (Dutch)

This point was made about Dutch SLF by Zwart (1991) and about German SLF by Hartmann (1994).

- (5.9) ***Na Zwolle rijdt deze trein verder als intercity naar Assen**
 after Zwolle goes this train further as intercity to Assen
en na Assen zal alleen stoppen te Groningen.
 and after Assen shall only stop at Groningen
 Intended reading: *'After Zwolle this train goes on as an intercity to Groningen and after Assen will only stop in Groningen.'*
 (Dutch, Zwart 1991, ex 2.)
- (5.10) ***Gestern ging der Jäger in den Wald und heute fing einen Hasen.**
 yesterday went the hunter into the woods and today caught a hare
 Intended reading: *'Yesterday the hunter went into the woods and today he caught a hare.'*
 (German, Hartmann 1994, p. 10, ex. 21a.)

In short, the finite verb of the second conjunct must immediately follow the conjunction in the surface string.

5.1.1.3 V2 must appear in non-inverted form

In SLF, V2 must appear in its non-inverted form. This fact is only evident in Dutch and only in certain examples. Dutch second person singular verbs have two forms, a

form that is used in sentences in which the verb follows the subject, as in (5.11), and a form that is used when the subject and verb have been inverted, as in (5.12).

- (5.11) **Je gaat/*ga**
 you go/go
 'You go.'
 (Zwart 1991, ex. 6a.)

- (5.12) **Daar ga/*gaat je.**
 there go/go you
 'There you go.'
 (Zwart 1991, ex. 6b.)

In an SLF construction, the second person singular verb must appear in non-inverted form as in (5.13).

- (5.13) **Als je niet verder kunt, dan keer je je om**
 if you not further can then turn you yourself around
en gaat/*ga dezelfde weg terug.
 and go/go the-same way back
'If you can't go further, then turn round and go back the way you came.'
 (Zwart 1991, ex. 7, quoted by Heycock and Kroch 1993, p 22. ex. 61)

This characteristic was pointed out by Zwart (1991), who cites Bakker (1968).

5.1.1.4 *Clauses embedded in a conjunct must express subject*

An unexpressed subject cannot occur in a dependent clause embedded in the second subject.

- (5.14) **Das Gepäck ließ er fallen und er sagt, dass *(er) nicht weiter konnte.**
 the baggage let he fall and he said that *(he) not further could
 Intended reading: *'He dropped the baggage and said he could go no further.'*
 (German)

- (5.15) ***De bagage liet hij vallen en zei dat *(hij) niet verder kon.**
 the baggage let he fall and said that *(he) not further could
 Intended reading: *'He dropped the baggage and said he could go no further.'*
 (Dutch)

Even if the embedded clause is one from which topicalization is generally permitted, the subject still must be overtly expressed.

- (5.16) ***Gestern ist Margot krank gewesen**
 yesterday is Margot sick been
und glaubt jeder sei im Bett geblieben.
 and believes everyone is in bed stayed
 Intended reading: 'Margot was sick yesterday and everyone believes she stayed in bed.' (German, Heycock and Kroch 1994, p. 261, ex. 7)

This example contrasts with (5.17), which demonstrates that topicalization of the subject out of the embedded clause would be grammatical if the second conjunct were a simple sentence.

- (5.17) **Margot glaubt jeder sei im Bett geblieben.**
 Margot believes everyone is in bed stayed
 'Everyone believes Margot stayed in bed.'
 (German, Heycock and Kroch 1994, p. 261, fn. 8)

This constraint on SLF was pointed out by Heycock and Kroch (1994).

5.1.1.5 No unexpressed objects

It is not possible to combine two main clauses into a SLF-type construction that has an unexpressed object. Höhle (1983) provides (5.18), which shows that a SLF may not contain both an unexpressed object and an unexpressed subject.

- (5.18) ***Morgen zeigt Karl dem Onkel die Briefmarken**
 tomorrow shows Karl the uncle the stamps
und bietet ihm zum Verkauf an.
 and offers him to sale on
 Intended reading: 'Tomorrow Karl shows his uncle the stamps and offers to sell him (them).' (German, Höhle 1983, ex. 48b.)

Kathol (1995) provides example (5.19), which shows that an unexpressed second-conjunct object cannot be related to a first-conjunct object.

- (5.19) ***Gestern zeigte Hans die Briefmarken dem Onkel**
 yesterday showed Hans the stamps the uncle
und verkaufte Otto der Tante.
 and sold Otto the aunt
 Intended reading: 'Yesterday Hans showed the stamps to his uncle
 and Otto sold (them) to his aunt.' (German, Kathol 1995, p. 81, ex. 6)

Zwart (1991) provides example (5.20), which shows that an unexpressed second-conjunct object cannot be related to a first-conjunct subject.

- (5.20) ***Na Zwolle zal deze trein alleen stoppen te Assen**
 after Zwolle shall this train only stop at Assen
en moet je dus niet nemen als je in Meppel moet zijn.
 and must you thus not take if you in Meppel must be
 'After Zwolle, this train will only stop in Assen and (that one) you don't
 want to take if you have to be in Meppel.' (Zwart 1991, ex. 12)

Höhle (1983) observes that a topicalized object cannot be related to an unexpressed object in the second conjunct.

- (5.21) ***Die Unterlagen brachte ich ins Büro**
 the documents brought I into.the office
und zeigte *(sie) den Kollegen.
 and showed *(them) to.the colleagues.
 Intended reading: 'I brought the documents to the office and showed
 them to the colleagues.' (German, Höhle 1983, ex. 51a.)

Later authors have characterized the same type of examples as demonstrating that SLF is incompatible with topicalization of an object from both conjuncts.

- (5.22) ***Einen Wagen kaufte Hans und meldete sofort an.**
 a car.ACC bought Hans and registered immediately PART
 Intended reading: 'Hans bought and immediately registered a car.'
 (German, Büring and Hartmann 1998, p. 178, ex. 14b.; Johnson 2002,
 p. 105 ex. 12)

This constraint is mentioned by Wunderlich (1988), Kathol (1995), Büring and Hartmann (1998) and Johnson (2002).

5.1.1.6 Scope of sentence-initial element

The sentence-initial element in SLF enjoys two interpretation possibilities. It can be interpreted as taking scope over both conjuncts, or it can be interpreted as taking scope over the first conjunct only. Buring and Hartmann (1998) cite (5.23) as an example in which the topic is interpreted as having scope over both conjuncts.

- (5.23) **In Italien kaufte Hans einen Wagen und meldete ihn sofort an.**
 In Italy bought Hans a.ACC car and registered it immediately PART
'Hans bought car in Italy and registered it immediately.'
 (German, Buring and Hartmann 1998, p. 178, ex. 14a.)

Example (5.24) is a subject-initial coordination in which the same adverbial appears in both conjuncts.

- (5.24) **Hans kaufte einen Wagen in Italien und**
 Hans bought a car in Italy and
meldet ihn in Italien sofort an.
 registered it in Italy immediately PART
'Hans bought car in Italy and registered it immediately in Italy.'

An appealing account is one that holds that (5.23) has been derived from (5.24) by way of ATB topicalization of **in Italien**. However, it is apparent that not all SLF can be derived in this way. The following example demonstrates that the topicalized adverb in SLF can have scope over only the first conjunct.

- (5.25) **Gestern haben alle ihre Sachen gepackt und wollen heute ausziehen.**
 yesterday have all their things packed and want today out.move
'Yesterday, everyone packed their belongings and wants to move out today.'
 (German, Höhle 1983, ex. 84a.; Kathol 1995, p. 103, ex. 46)

This SLF contrasts with standard coordination in which an adverb has been topicalized.

- (5.26) **#Gestern hat Otto seine Sachen gepackt und will Karl heute ausziehen.**
 yesterday has Otto his things packed and want Karl today out.move
 Intended reading: 'Yesterday Otto packed his things and Karl wants to move out today.' (German, Kathol 1995, p. 103, ex. 46)

The verb-subject word order of the second conjunct shows that (5.26) must be derived by ATB-extraction of the adverbial from both conjuncts. According to Kathol (1995), (5.26) is odd because it expresses the self-contradictory proposition that Karl wants to move out today and that he wants to move out yesterday. Because the SLF construction in (5.25) does not express a contradictory proposition, it can be concluded not to involve ATB-extraction of the adverb **gestern**, 'yesterday'. Adverb scope facts in SLF were first observed by Höhle (1983) and are also discussed by Kathol (1995) and by Büring and Hartmann (1998).

5.1.1.7 Constraints on subject reconstruction

SLF coordination never admits interpretations that require the subject to reconstruct down into both conjuncts. This fact is pointed out by Höhle (1991), Büring and Hartmann (1998) and Johnson (2002).

- (5.27) **In Amerika ist eine Frau Außenministerin und bekleidet in Deutschland sogar das zweithöchste Amt des Staates.**
 In the US is a woman foreign minister and occupies in Germany even the second.highest post of.the state
'In the US a woman is secretary of state and occupies the second highest government position in Germany.'
 (German, Büring and Hartmann 1998, p. 17 ex. 48)

Example (5.27) has only a single interpretation, namely that there is one woman who is both the Secretary of State in the US and occupies the second highest government position in Germany. The more likely interpretation involving two women (and constituting a true statement about Madeleine Albright and Rita Süßmuth in 1998) is excluded. This example contrasts with subject-initial coordination.

- (5.28) **Eine Frau ist in Amerika Außenministerin und bekleidet in Deutschland sogar das zweithöchste Amt des Staates.**
 a woman is in USA foreign minister and occupies in Germany even the second highest post of the state
'A woman is secretary of state in the USA and occupies the second highest government position in Germany.'
 (German, Büring and Hartmann 1998, p. 187, ex. 46)

Example (5.28) has two interpretations, the unlikely interpretation in which a single woman is involved, and the likely interpretation in which two women are involved. Höhle (1990), Büring and Hartmann (1998) and Johnson (2002) adopt the position that these two interpretations are possible because the subject is optionally reconstructed down into both conjuncts at LF and is interpreted there.

5.1.1.8 Second-conjunct subject of SLF receives E-type reading

The dominant view in the literature is that the V2-subject always receives a bound reading when the V1-subject is a quantifier. This position is held by Heycock and Kroch (1993, 1994), Heycock (1994), Kathol (1995), Büring and Hartmann (1998) and Johnson (2002) and they support it using (only) the following three examples.

- (5.29) **Nach Angaben der Polizei kennt kein Opfer seinen Peiniger und schweigt stille.**
 according-to reports of-the police knows no victim his tormenter and remains silent
'According to police reports no victim knows his tormenter and remains silent.'
 (German, Büring and Hartmann 1998, p. 179, ex. 17b.; Johnson 2002, p. 98, ex. 2b.)
- (5.30) **Nach Einschätzung des Lehrers haben die wenigsten Schülerinnen einen Freund und schlafen mit ihm.**
 according-to estimation of-the teacher have the fewest students a boyfriend and sleep with him
'According to the opinion of the teacher few of the students have a boyfriend and sleep with him.'
 (German, Büring and Hartmann 1998, p. 179, ex. 17a.)

(5.31) **Den Hund hat einer gefüttert und hat ihn geschlagen.**

the dog has one fed and has him beat

'Someone fed the dog and hit it.'

(German, Schwarz 1998, p. 213, ex 54b; Johnson 2002, p. 98, ex. 2a.)

Let's examine these in turn. Example (5.29) is interpreted to mean that the police assert that it is not the case that there exists a victim that both knows something and remains silent. It does not mean that the police assert that there exists no victim. The negative indefinite subject **kein Opfer** thus takes scope over both conjuncts and binds the V2-subject. Example (5.30) means that the teacher guesses that few of the students both have a boyfriend and sleep with him. Again, the quantifier binds the V2-subject. Example (5.31) means that there is one person and that this person has both fed the dog and hit it.⁶³

Hartmann (1994) presents an example in which the V2-subject receives an E-type reading, rather than a bound reading.

(5.32) **In den Wald gingen weniger als zwei Jäger**

into the woods went less than two hunters

und fingen einen Hasen.

and caught a hare

'Less than two hunters went into the woods and caught a hare.'

(German, Hartmann 1994, p. 16, ex. 37)

Hartmann (1994) states that (5.32) is only appropriate in a situation in which one hunter goes into the woods and this hunter also catches a hare. This example cannot

⁶³ Johnson's (2002) claim about this example is that the subject, **einer**, 'someone', takes scope over both conjuncts. He states '...the favored interpretation is one in which **einer**, 'someone', refers to an individual of whom the properties named by both conjuncts are predicated,' (p. 98). This observation tells us that there can be no reconstructed reading for the subject, but it does not exclude the possibility that the unexpressed subject of the second conjunct is related to the subject of the first conjunct via an E-type dependency. If the second-conjunct subject is an E-type pronoun, it would refer to the same individual as verifies the first conjunct. This individual is the individual who fed the dog. Thus both **fed the dog** and **beat him** are predicated of the same individual, without the subject taking scope over both conjuncts. In general, **einer** is not a quantificational element that yields clear judgments concerning E-type readings.

be used to describe situations in which more than one hunter goes into the woods. She claims that as subject-initial (non-SLF) coordination, as in (5.33), is ambiguous between having a bound reading and an E-type reading for the second subject (p. 16).

- (5.33) **Weniger als zwei Jäger gingen in den Wald**
 less than two hunters went into the woods
und fingen einen Hasen.
 and caught a hare
'Less than two hunters went into the woods and caught a hare.'
 (German, Hartmann 1994, p. 16, ex. 38)

Büring and Hartmann (1998) argue that there is no E-type reading for the unexpressed subject of SLF and do not discuss (5.32). Example (5.32) deserves careful consideration, however. It is not difficult to find additional SLF examples in German and Dutch in which the V2-subject receives an E-type reading.

- (5.34) **Aus dem Automaten rollten nur zwei Kaugummikugeln**
 from the machine rolled only two gumballs
und landeten in meiner Hand.
 and landed in my hand
'Only two gumballs rolled out of the machine and landed in my hand.'
 (German)
- (5.35) **Uit de machine rolden slechts twee kauwgumballen**
 from the machine rolled only two gumballs
en landden in mijn hand.
 and landed in my hand
'Only two gumballs rolled out of the machine and landed in my hand.'
 (Dutch)

Speakers report that (5.34) and (5.35) mean that a total of only two gumballs rolled out of the machine and that both those gumballs landed in my hand. This interpretation tells us that the quantified subject of V1 does not take scope over both conjuncts and indicates that the unexpressed subject of V2 demonstrates

maximality effects. Hence, applying the reasoning of Evans (1980) discussed in Chapter 2, it can be concluded that the unexpressed subject receives an E-type reading. This judgment is clear; speakers do not feel that these sentences are consistent with situations in which a great flood of gumballs comes out of the machine and where I only catch two of them.⁶⁴ Since the unexpressed subject receives an E-type reading it is possible to apply the argumentation of Baker and Stewart (2002) and conclude that the unexpressed subject is a null pronoun.

5.1.2 *Analysis of Standard Coordination*

In this section, an account is developed that holds that two distinct underlying structures give rise to the surface strings of standard (i.e. subject-initial, non-SLF) coordination, a view I share with Hartmann (1994). The first structure is an ATB-structure, such as is quite commonly assumed for subject-initial coordination in the literature. The second structure is a coordination structure in which the V2-subject is a null pronoun.

Consider the following English examples of subject-initial coordination involving two finite verbs.

(5.36) **Lynn has written me an e-mail and will call me tomorrow.**

(5.37) **Jan attended the party last night and came to class on time this morning.**

⁶⁴ Another example that I tested rigorously is (i).

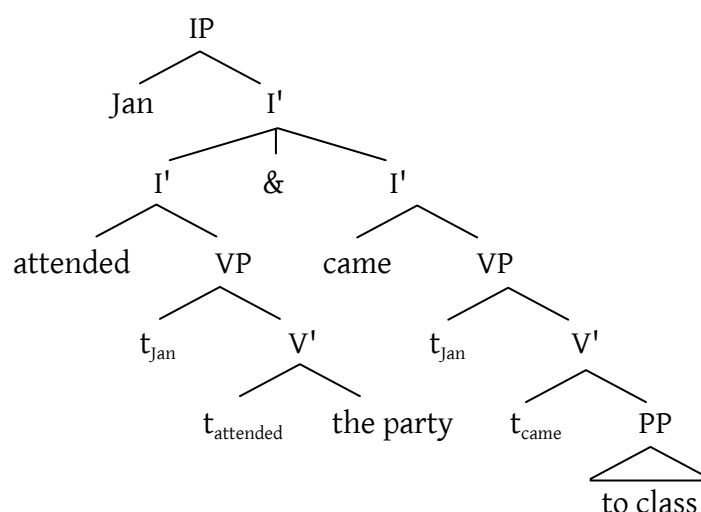
- (i) **Auf der Fete haben nur zwei Leute den Salat gegessen**
 at the party have only two people the salad eaten
und sind krank geworden.
 and are sick become

'Only two people at the party ate the salad and (they) became sick.' (German)

Here speakers also report an E-type reading for the subject of the second conjunct.

Because each conjunct is a different tense it is possible to exclude a VP-coordination structure for these examples. Rather, their structure must contain two representations of inflection. Classically, symmetric I'-coordination, as illustrated in (5.38), has been used to represent such examples. Among the authors that have advocated this structure are Godard (1989) and McNally (1992).

(5.38) Symmetric I'-coordination (cf. (5.37))



In (5.38), the subject has moved Across-The-Board (ATB) out of both conjuncts. ATB-movement is constrained by a parallelism requirement imposed on the surface string constituting the two conjuncts (Williams 1978). This requirement is defined over strings. If the parallelism constraint were defined with respect to grammatical relations it would fail to capture the entire range of possibilities.

(5.39) **Die trein had ik makkelijk kunnen halen**

the train had I easily could catch

maar is veel te vroeg vertrokken.

but is much too early left

'I could have caught the train but it left much too early.'

(Dutch, Kathol 1995, p. 111, ex. 63, from Zwart 1991, p. 338)

(5.40) **Käse mag ich nicht und ist auch nicht gut für mich.**

Cheese like I not and is also not good for me

'I don't like cheese and it is also not good for me.'

(German, van Oirsouw 1993, p. 775, ex. 36)

In (5.39) and (5.40), the topicalized element is the object of the first conjunct and the subject of the second. According to van Oirsouw (1993), (5.40) violates stylistic convention and it is this violation, rather than ungrammaticality, that explains any speaker discomfort (for example that mentioned in Wilder (1997) fn 22) with this example.

I do not adopt the X'-coordination structure shown in (5.38) for my account. Instead, I will assume (as for EOC and ESC) that coordination is effected by a conjunction which is a head that projects an &P. The head selects the second conjunct as its complement and projects a specifier position that is occupied by the first conjunct. Because, under this view, conjuncts are selected by heads, conjuncts cannot be X'-level projections, but must be maximal projections.

Another possible analysis for coordination is to use a deletion operation to derive the fact that the surface string contains only a single subject. Under a deletion approach, it is possible to maintain the assumption that coordination always combines identical maximal projections. Wilder (1994) proposes an account of coordination under which clausal coordination is coordination of two CPs and reduced by ellipsis. Ellipsis is deletion of phonetic material and does not affect syntactic structure. The coordination in (5.41) has the structure in (5.42).

(5.41) **John has often drunk beer and has seldom drunk wine.**

(5.42) [John [_i has often drunk beer]] and
 [~~John~~ [_i has seldom drunk wine]]
 (Wilder 1994, p. 304, ex. 59a.)

Ellipsis does not over-generate, since it is constrained to affecting initial constituents (as in (5.42)), second constituents and final constituents. Under Wilder's (1994, 1997) analysis, coordination like (5.41) can be conflated with operations such as gapping and Right Node Raising, affording a simplification in the syntactic system.

The weakness of such an ellipsis analysis is that it does not derive the correct interpretations for sentences with indefinite subjects. Compare a coordination with one overt subject, (5.43), with a coordination with two overt subjects, (5.44).

(5.43) **A student has written me an e-mail and will call me tomorrow.**

(5.44) **A student has written me an e-mail and a student will call me tomorrow.**

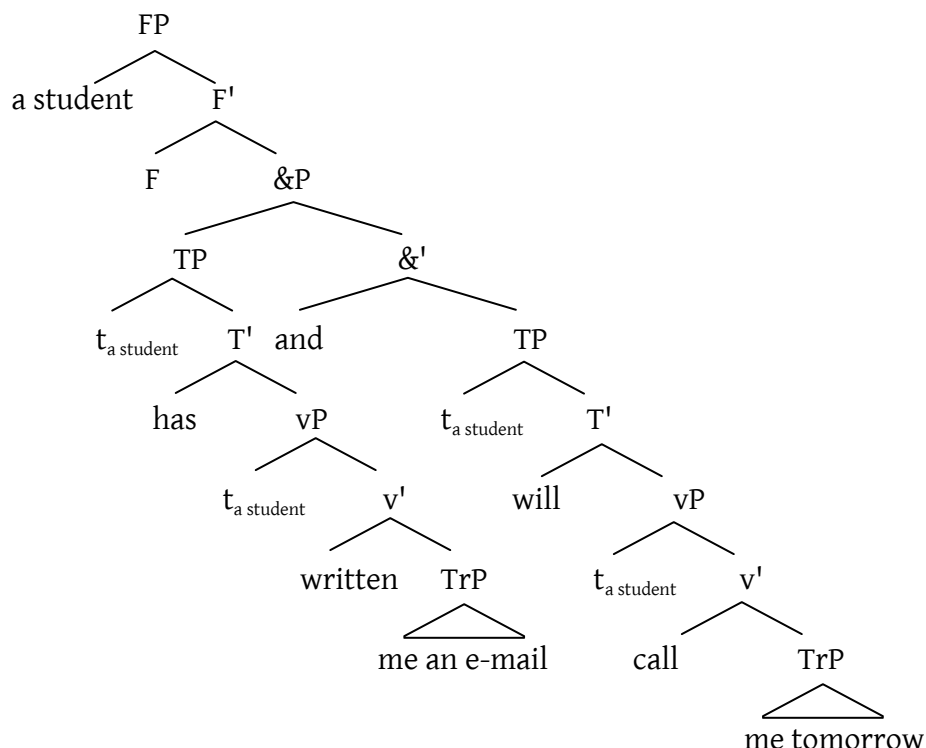
Example (5.43) is most naturally interpreted to express a proposition concerning a single student. Example (5.44) does not paraphrase (5.43) since its most natural interpretation involves two students, one that writes e-mail and one that calls. Under the deletion analysis of coordination, (5.43) and (5.44) are identical, except that phonetic material has been deleted from the second conjunct in the former.

(5.45) (cf. (5.43)) [A student [_i has written me an e-mail]] and
 [~~a student~~ [_i will call me tomorrow]

If we adopt the deletion analysis, it is necessary to explain why deleting the phonetic content of the subject shifts the sentence to an interpretation involving only one student. The ATB-analysis poses an elegant explanation for this shift. Since the subject c-commands both conjuncts in (5.38), it can be predicated of a fusion of the two conjuncts.

I would like to propose that the following structure gives rise to the surface strings of subject-initial coordinations such as (5.28), (5.36) and (5.37).

(5.46) Standard Coordination (ATB structure)



I propose that subject-initial coordination involves a head, which I will label neutrally as F, that selects an &P, which is headed by the conjunction, **and**. The F head creates an intersected predicate, a predicate denoting the complex property resulting from the intersection of the properties expressed by the two individual conjuncts. Under my account, ATB-extraction is triggered by F, which needs to check a double EPP-feature. F requires that the elements that check its EPP-feature be identical in form, presumably because F has only a single specifier position and

the two elements must be able to phonetically conflate in order to occupy it.⁶⁵

Separation of the coordination mechanism into two functional projections, &P and FP, permits parameterization of coordination structures. My claim is that some coordinations involve ATB-movement, while others do not. In particular, as I will later argue, coordination involving null pronoun V2-subjects is not derived via ATB-movement. The structure for coordination not derived by ATB-movement lacks a FP.

The idea that ATB-coordination involves a head with features that need to be checked has also been put forward by te Velde (2002). Under te Velde's (2002) account, the conjunction of subject-initial coordination checks, among other features, the θ -role of the unexpressed second-conjunct subject and insures that it matches the θ -role of the first-conjunct subject (p. 322). It is rather unprecedented to consider the θ -role that has been assigned to an argument as a feature of that argument. Additionally, θ -role matching does not serve to account for (5.39) and (5.40). For these reasons, I do not adopt the mechanism of θ -role matching.

In his analysis, te Velde (2002) includes an informative discussion on the symmetry requirements in subject-initial coordination, which he claims guide the search for an element that fulfills the feature-matching requirements of the conjunction. My account shifts the burden of restricting which elements can undergo ATB-extraction completely onto such symmetry requirements. I retain Williams' (1978) requirement that ATB-movement take place from two parallel positions in the surface string. It is this requirement that excludes (5.47).

(5.47) *A student [_T _{a student} has written her an e-mail] and
[she will see _T _{a student} tomorrow]

⁶⁵ I have depicted V1 as remaining in T and not moving to F. If we consider the surface string of subject-initial coordination, however, it is not possible to determine whether V1 has remained in T or moved to F. I will not resolve this point.

The only requirement that F places on the two constituents that check its double EPP-feature is that they have the same phonetic form so that they can conflate in Spec F.

Thus far, I have put forward (5.46) as an appropriate structure for representing subject-initial coordination as in (5.36) and (5.37). The ATB-coordination structure I propose, (5.46), implements the central advantage of the ellipsis account since it represents coordination as the combination of two identical maximal projections. It also implements the central advantage of the ATB-account since it derives the surface subject position by way of ATB-movement which corresponds to the semantic operation of predicate intersection.

The ATB-structure is not sufficient to account for all coordination, however. Additional evidence motivates the existence of a null-subject structure that can also be used in the derivation of subject-initial coordination. When this second structure is used, the absence of a second-conjunct subject in the surface string is due to the presence of a null subject pronoun. Rögnvaldsson (1990) proposes such a structure for Icelandic. He argues that the fact that Icelandic coordination can involve verbs that have differing Case requirements for their subjects demonstrates that coordination can involve a null subject in the second conjunct.

- (5.48) **Við_i vorum svangir og ec_i langaði í mat.**
 we.NOM were.1PL hungry and ec_i wanted.3SG food
 'We were hungry and wanted food.'
 (Modern Icelandic, Rögnvaldsson 1990, p. 372, ex. 25)

In this example, V1 requires a subject that is nominative and V2 requires a subject that is not. The null subject is necessary since two Cases cannot be assigned to (i.e. checked by) the same argument. Van Valin (1986) also makes a similar proposal for English. He observes that when a coordination contains two separate tenses, it is

necessary to posit the presence of two IPs. If the subject of the second IP is not overt, he proposes that it is a null pronoun. He points out that it is not possible to reduce all coordination to IP-coordination because the presence of an overt subject gives rise to interpretational differences, which he illustrates with the following examples.

(5.49) **Few men left early yesterday and reached Santa Fe in the evening.**

(van Valin 1986, p. 582, ex. 4a.)

(5.50) **Few men left early yesterday and they reached Santa Fe in the evening.**

(van Valin 1986, p. 582, ex. 4b.)

The dominant reading of (5.49) is the complex-predicate interpretation. The subject is predicated of the complex property formed by the intersection of the properties expressed by the two conjuncts. With the complex-predicate interpretation, the quantifier subject takes scope over the entire coordination. In (5.50) each conjunct is predicated individually of a separate subject and the complex-predicate interpretation is not possible. According to van Valin (1986), because (5.49) and (5.50) have different interpretations, they should not be assigned the same underlying structure. Two structures must be used instead.

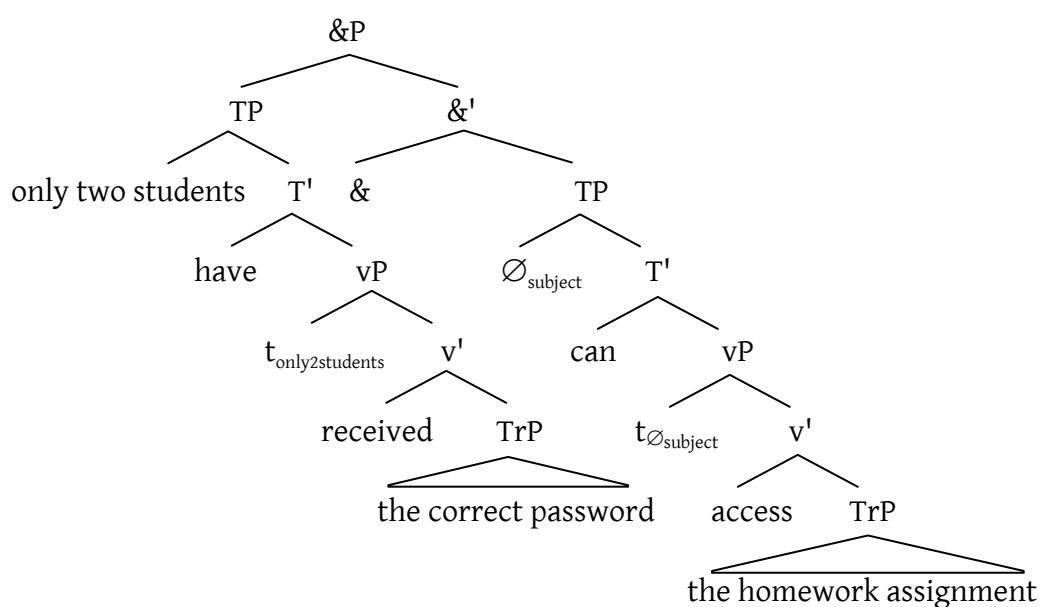
I follow van Valin's (1986) insight in proposing that there are two sorts of TP-coordination (updating his IP-coordination), the ATB-style TP-coordination as in (5.46) and TP-coordination involving a null subject. An example in which the reading that corresponds to the latter emerges clearly is (5.51).

(5.51) **Only two students have received the correct password and can access the homework assignment.**

For this example, the reading under which the quantifier subject takes scope over the entire coordination is not readily available. It is difficult to apply (5.51) to a situation in which all students received the correct password, but only two are able

to download the assignment. The most natural reading is one in which the quantifier subject scopes only over the first conjunct. Under its dominant interpretation, (5.51) applies to a situation in which two students total were given the correct password and both these students are able to download the assignment. It is the unnaturalness of the wide-scope reading that prompts me to question the assumption that this sentence should be represented by a single structure in which the subject has wide syntactic scope. For (5.51), the most readily available reading is the one in which the quantifier takes scope over the first conjunct only. This reading clearly also involves maximality effects: Both the students who receive the correct password can download the assignment. These are exactly the tests that we need to show apply in order to demonstrate that the unexpressed subject of the second conjunct receives an E-type reading and is therefore a null pronoun. The dominant interpretation of (5.51) motivates the existence of a second, null-subject structure, which underlies coordination and is used in cases where wide-scope readings for subjects do not naturally apply.

(5.52) Standard coordination (null subject structure)



In (5.52), the coordination is effected by &P alone. There is no FP because there is no operation of intersection, in other words, no formation of a single, complex predicate. Instead, two predications take place, one in the first TP and one in the second. In the second TP, a null subject pronoun is predicated of the property **access the homework assignment**. This pronoun refers to the same entity as the V1-subject.

If the V2-subject of subject-initial coordination is a null subject pronoun, it must satisfy the Formal Licensing Condition and the Identification Condition like any other null pronoun. I would like to put forward that all of English, Dutch and German are actually null-subject languages of a sort. They are null-subject languages in that they inherently are able to fulfill the Formal Licensing Condition. The occurrence of null subjects is limited to the second conjunct of coordination, however, since this is the only position in which null subjects are able to fulfill the Identification Condition. They fulfill the Identification Condition using a variant of the Coupling Mechanism. The structure in (5.52) shares an interesting similarity with the structure I proposed for the Norwegian EOC and the Baule ESC in that the null pronoun occupies the maximal position in its clause. My claim is that a critical factor in the licensing of the null subject in (5.52) is that it occurs in a topmost position, providing it with access to the antecedent clause it needs to fix its reference using the Coupling Mechanism. An immediate advantage of using the Coupling Mechanism for Identification of the second-conjunct null subject is that it is possible to address van Valin's (1986) criticism of his own proposal. Van Valin (1986) proposes that coordination can involve a *pro* subject, but he points out that this subject cannot be standard *pro*, because it is not allowed to refer to an extrasentential referent, a point also made by Godard (1989). Instead, the null subject of the second conjunct must be interpreted as referring to the subject of the first conjunct (p. 585). Van Valin suggests that the null subject must be a form of

obligatorily controlled *pro*. The Coupling Mechanism, however, establishes the link between licensing of a null subject and the impossibility of extrasentential reference.

The E-type reading for the unexpressed second subject does not occur with every coordination whose first-conjunct subject is a quantifier. First, the quantifier must be of the sort that gives rise to E-type readings. Second, there must be a particular relationship implied between the proposition expressed by the first conjunct and the proposition expressed by the second conjunct. Some examples seem to have only the complex-predication reading, involving a single predicate, which corresponds to the ATB-coordination structure (5.46).

(5.53) **Only two students attended the party last night and will make it to class this morning.**

Under its dominant interpretation, this sentence does not convey that a total of two students attended the party last night. Rather it expresses that there are only two students who were both at the party last night and are cutting class this morning. My claim is that subject-initial coordination is a reflex of either an underlying ATB-structure or an underlying null-subject structure. Speakers make the choice between structures according to what the coordination is meant to convey. Listeners rely on context to make the decision which structure should be used to parse the coordination.

Let me attempt to formulate a specification of the relationship between the propositions expressed by the two conjuncts that primes a coordination to be interpreted as containing a null subject. Goldsmith (1985) and Lakoff (1986) discuss the typology of coordination, and link the possibility of violation of the Coordinate Structure Constraint to the assumed link between the two conjuncts. For example,

(5.54) is allowed to violate the CSC, because the second conjunct contradicts the conventionalized expectations established by the first conjunct.

(5.54) **How many glasses of mulled wine can you drink and stay sober?**

Conventionally, drinking mulled wine is associated with the consequence of getting tipsy and not with staying sober. The contradiction of conventionalized expectations can be demonstrated by the fact that the conjunction **and** in (5.54) could be replaced with **and still** without changing what the sentences expresses.

It seems that the assumed link between the conjuncts is not only involved in determining the possibility of CSC-violating extraction, but also predisposes a coordination to be interpreted either with the ATB-structure (5.46) or with the null subject structure (5.52). In (5.53), the second conjunct *will make it to class this morning* is most naturally interpreted as a violation of the conventionalized expectations established by *attended the party last night*. In this example, **and** has the function of 'and still', as in (5.54). Speakers interpret the subject quantifier in this sentence as having scope over both conjuncts.

Example (5.53) contrasts with (5.51) (repeated), in which the two conjuncts are most naturally interpreted as having a different relation.

(5.51) **Only two students have received the correct password and can access the homework assignment.**

In (5.51), the second conjunct *can access the homework assignment* upholds the conventionalized expectations established by the first conjunct *have received the correct password*. The password is assumed to be a prerequisite for accessing the assignment. Sentence (5.51) evokes a scenario in which only two students received the correct password and that both these students were able to download the assignment.

The contrast between (5.51) and (5.53) emerges clearly when we compare them to coordinations in which the subject of the second conjunct is overt.

(5.51)' **Only two students have received the correct password and (they) can access the homework assignment.**

(5.53)' **Only two students attended the party last night and (they) will make it to class this morning.**

In (5.53)', a clear shift of interpretation occurs when the pronoun in parentheses is removed. In (5.51)', there is no such shift. My claim is that when the second conjunct expresses a consequence consistent with conventionalized expectations the coordination is predisposed to be interpreted as containing a null pronoun subject in its second conjunct. This interpretation does not differ from the interpretation of a coordination with an overt pronoun V2-subject.

Whether a sequence of conjuncts upholds or violates conventionalized expectations is highly context dependent, and the contrast between the scenarios in which (5.51) and (5.53) hold is slippery. Most coordinations seem to admit either reading, given an appropriate context.

(5.53) **Only two students refused to resume their seats and were sent to the principal's office.**

This sentence could apply equally to a situation in which all of the students refused to sit down, and only two ended up getting punished for it, or to a situation in which only two students refused to sit down and those two students got punished for it.

It is possible to construct an example such that the readings which I claim correspond to the two separate underlying structures clearly apply in disjoint contexts. Consider the following sentence.

(5.55) **Only one person on the plane had SARS and wore a facemask.**

The first context yields the reading that corresponds to the ATB-coordination structure (5.46). A plane arrives from a SARS infected area and a week later all the passengers have contracted the disease. A reporter questions an epidemiologist about the situation and the epidemiologist replies with (5.55).

(5.56) Reporter: *'With all the precautions that are in place, how is it possible that the disease spread?'*

Epidemiologist: *'Only one person on the plane had SARS and wore a facemask.'* (i.e. (5.55))

In this context, the reply means that there was only one single passenger who both had SARS and wore a facemask. The convention being used here is that wearing a facemask is not the expected behavior of infected passengers. The sentence conveys that there was more than one SARS infected person on the plane. If it did not express this fact, it would not serve as an answer to the question since it would not explain the spread of the disease.

The second context corresponds to structure (5.52) in which the unexpressed subject of the second conjunct is a null pronoun. A plane arrives from a SARS infected area and a week later no one on the plane has contracted the disease. A reporter questions an epidemiologist about the situation, who replies with (5.55).

(5.57) Reporter: *'People arriving in a plane from a SARS area run a high risk of all becoming infected in flight; how is it possible that this did not happen?'*

Epidemiologist: *'Only one person on the plane had SARS and wore a facemask.'* (i.e. (5.55))

In this context, the sentence conveys the fact that there was only a single person who had SARS on the plane and that this person wore a facemask. The convention being used here is wearing a face mask is the expected behavior of an infected passenger. The fact that this person wore a facemask is the reason that the disease did not spread. I do not claim that these two structures correspond to sentences

with different truth conditions. In both cases, the sentences are true only if the cardinality of the set of people who both had SARS and wore facemasks is exactly one. What the speaker is communicating is two different relationships between having SARS and wearing a facemask. The relationships are implicatures.

I want to posit the existence of two different structures underlying these two relationships despite the fact that the difference is not one grounded in truth conditions. Consider the variant on (5.55) in which the non-initial subject is represented as a pronoun.

(5.58) **Only one person on the plane had SARS and he wore a facemask.**

This sentence cannot induce the implicature that more than one person on the plane was infected with SARS. Thus, possible implicature is influenced by the presence of an overt V2-subject pronoun. My argument for two structures underlying subject-initial coordination is supported by the elegance with which such an analysis accounts for the fact that (5.55) can be used to convey the same information as (5.58), a coordination in which the V2-subject is an overt pronoun. Although (5.55) does not express a second-conjunct subject overtly, it has an underlying syntactic representation identical to that of (5.58). Example (5.55) also has a second, quite different implicature demonstrated by (5.56). The fact that a coordination with an overt V2-subject such as (5.58) cannot convey this implicature is neatly accounted for by my claim that the appropriate structure is not available. The system I propose yields a principled relationship between syntactic structure and sentence interpretation.

Another source of support for my proposal that there are two structures for subject-initial coordination is the existence of languages like Baule. As shown in Chapter 3, Baule has coordination structures in which the V2-subject is unexpressed, but which

can never have the interpretations associated with the ATB-structure for subject initial coordination. If there are two structures underlying subject-initial coordination, the difference between Baule, and, for example, English can reduce to the fact that Baule lacks the FP necessary to build the ATB-coordination structure.

In sum, I have proposed that standard (subject-initial) coordination of two clauses is effected by an &-head which projects an &P. One of two underlying structures gives rise to the surface string of standard coordination. The first, shown in (5.46), involves ATB-movement of the subject out of both conjuncts. When the subject is a quantified NP, it becomes clear that coordinations with this underlying structure receive the interpretation corresponding to a single predication between one subject and a complex predicate, which denotes the intersection of the properties expressed by the two conjuncts. The second, shown in (5.52), involves a null subject in the second conjunct. This null subject is similar to the null pronouns in the Norwegian EOC and the Baule ESC in that it has only a single reference possibility. It is similar to the shared object of the Norwegian EOC in that it fulfills formal licensing by occupying the topmost position in its clause. When the first-conjunct subject is a (appropriate) quantified NP, the unexpressed second-conjunct subject of coordinations with this underlying structure receives an E-type reading. This E-type reading confirms that the unexpressed subject is a pronoun in this structure. The listener must determine which structure underlies a given coordination example. The choice of structure depends on the context and on which conventions relate the propositions expressed by the two clauses. If the second clause expresses a proposition that is a conventional continuation of the first clause, the coordination is primed to be interpreted as having a null subject in its second conjunct.

5.1.3 *Analysis of SLF coordination*

In this section, I present my analysis for SLF. In 5.1.3.1, I will review previous accounts of SLF. In 5.1.3.2, I will propose a structure for SLF that involves a second conjunct null subject and demonstrate how this null subject fulfills the Formal Licensing Condition. In 5.1.3.3, I will present my proposal for the mechanism by which this null subject fulfills the Identification Condition. The licensing of the null subject will turn out to be very similar to the licensing of null pronouns in EOC/ESC.

5.1.3.1 *Previous accounts of SLF*

Authors who have discussed the SLF can be divided into two camps. I will call the types of accounts proposed by these camps the *small-conjuncts solution* and the *big-conjuncts solution*, following Johnson (2002). Authors proposing small-conjuncts solutions take the position that the subject is external to both conjuncts of the SLF. The main proponents of this sort of account are Höhle (1990), Heycock and Kroch (1993, 1994) and Heycock (1994). The proposals of Kathol (1995) and Johnson (2002) also fall into this category. The challenge for small-conjuncts solutions is to explain why material that precedes the subject in the surface string is allowed to move in violation of the CSC out of the first conjunct. Authors proposing big-conjuncts solutions take the position that the second conjunct of SLF is large enough to contain a subject position. The challenge for big-conjuncts solutions is to explain why this subject is not pronounced. Big-conjuncts solutions can be further divided into two approaches that are pursued. First, some accounts claim that the subject has been elided, such as Wilder (1994, 1997) and Zwart (1991). Second, some accounts claim that the subject is present in the conjunct, but is null. Van Zonneveld (1992) holds the subject to be a pronoun with no phonetic content. Hartmann (1994) and Büring and Hartmann (1998) claim that the null subject is an empty element

(possibly a subject pronoun) bound by a null operator. In the following, I discuss these various accounts in turn.

5.1.3.1.1 Small-conjuncts solutions

In small-conjuncts solutions, the subject is claimed to stand outside of both conjuncts. A subject that is external to both conjuncts c-commands both conjuncts. It is therefore not possible that the second-conjunct subject ever receives an E-type reading when the SLF involves a quantified first-conjunct subject. My position is that this sort of a structure cannot be the only structure underlying SLF.

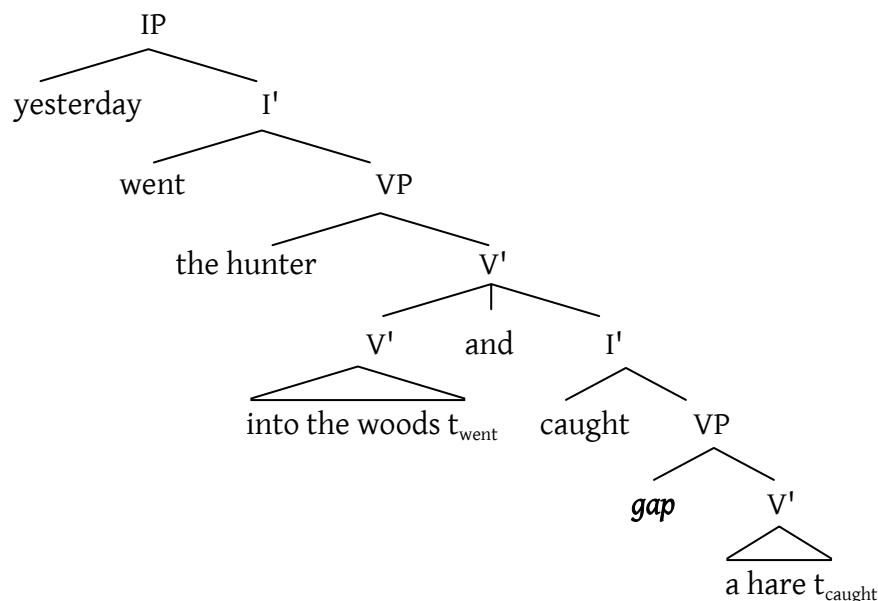
Höhle (1983) provides a descriptive account of SLF. In his examples, he locates the subject gap following the finite verb of the second conjunct. The Dutch example (5.13) in 5.1.1.3 suggests that the subject gap precedes the finite verb. Höhle's (1983) assumption is a natural one if one considers, as he does, only German data.

Höhle (1990) builds on the idea that coordination can combine conjuncts of unlike category, as long as those conjuncts have the same degree of (un)saturation, which he understands to make them functionally identical. In the case of SLF, Höhle (1990) claims that V' combines with an I' that also needs a subject in order to be saturated. We will find variations on this idea in other small-conjuncts solutions, such as they work of Heycock and Kroch (1993, 1994) and Kroch (1994), discussed below.

My comments on Höhle's (1990) account closely follow Kathol's observations on Höhle's work (Kathol 1995, pp. 83-89). The tree in (5.60) uses the following example to illustrate the structure proposed by Höhle (1990).

- (5.59) **Gestern ging der Jäger in den Wald und fing einen Hasen.**
 Yesterday went the hunter into the woods and caught a hare.
 'Yesterday the hunter went into the woods and caught a hare.'
 (German, Kathol 1995, p. 82, ex. 7)

- (5.60) SLF Structure of Höhle (1990) adapted from Kathol (1995, p. 86, ex. 15)



Under Höhle's (1990) account, the assignment of structural Case is optional. In SLF, structural Case is not assigned to the second-conjunct subject, shown in the structure as **gap**. Because the second-conjunct subject does not receive structural Case, it cannot be assigned a θ -role, either. The I' is forced to 'externalize' its θ -role, in other words, to assign the θ -role to an external position. The process of externalization makes I' into a predicate with an unsaturated subject position. Since V' is also a predicate of this sort, I' is now able to coordinate with V'. It is not clear what kind of empty category Höhle (1990) considers the gap to be.

A positive feature of Höhle's account is that it restricts SLF gaps to being subjects. Objects are not external arguments, and do not undergo externalization. A negative aspect of Höhle's account is that it fails to explain why externalized θ -roles get assigned to arguments that are also subjects. This criticism is raised by Kathol

(1995), who points out that in SLF an object can scramble to a position before the subject.

- (5.61) **Gestern sprach sie der Jäger an und zeigte ihr den Weg.**
 Yesterday speak her.ACC the.NOM hunter PART and showed her the way
'Yesterday the hunter spoke to her and showed her the way.'
 (German, Kathol 1995, p. 87, ex. 16)

It is not clear by what mechanism Höhle (1990) intends to exclude the possibility that the externalized θ -role of the subject is assigned to the object of V1, which occupies the highest position in its conjunct. It is possible that he envisions a sort of requirement on θ -role matching. Höhle is obviously aware of examples such as (5.61), since he cites them.

- (5.62) **Offenbar beunruhigt den Jungen diese Vorstellung**
 clearly disconcerted the.ACC boy this.NOM idea
und macht ihn ganz krank.
 and made him completely sick
'Clearly this idea disconcerted the boy and made him completely sick.'
 (German, Höhle 1983, ex. 74a.)

- (5.63) **Hoffentlich sieht uns keiner und zeigt uns an.**
 hopefully sees us.ACC no.one.NOM and reports us PART
'Hopefully no one sees us and reports us.'
 (German, Heycock 1994, p. 212, ex. 128a. from Höhle 1983)

Examples like (5.61) - (5.63) in which the shared subject of SLF is buried deep in the first conjunct will turn out to cause problems for quite a few accounts of SLF. I will designate such examples collectively as 'buried-subject SLF.'

Heycock and Kroch (1993, 1994) and Heycock (1994) propose that the SLF construction is coordination of an I'-projection with a dual identity I'/C'- projection. The surface subject is external to both conjuncts.

- (5.64) $\begin{bmatrix}_{CP} \text{Das Gepäck} \end{bmatrix}_{C'} \text{ließ} \begin{bmatrix}_{IP} \text{er} \end{bmatrix}_{I'} \begin{bmatrix}_{VP} t_{\text{Das Gepäck}} \text{fallen } t_{\text{ließ}} \end{bmatrix} \text{und}$
 $\begin{bmatrix}_{CP} \text{the luggage} \end{bmatrix}_{C'} \text{let} \begin{bmatrix}_{IP} \text{he} \end{bmatrix}_{I'} \begin{bmatrix}_{VP} t_{\text{the luggage}} \text{fall } t_{\text{let}} \end{bmatrix} \text{and}$
 $\begin{bmatrix}_{C'/I'} \text{rannte} \end{bmatrix}_{C'} \begin{bmatrix}_{IP} t_{\text{er}} \text{zum Ausgang } t_{\text{rannte}} \end{bmatrix}_{I'} \text{]]]]]$
 $\begin{bmatrix}_{C'/I'} \text{ran} \end{bmatrix}_{C'} \begin{bmatrix}_{IP} t_{\text{he}} \text{to-the exit } t_{\text{ran}} \end{bmatrix}_{I'} \text{]]]]]$

The second conjunct achieves its dual identity as C' and I' by virtue of the fact that a specifier-head relationship between the subject and the verb obtains within both CP and IP. They propose that such doubled relationships must reduce under an economy principle that forms the basis for their theory of Dynamic Licensing. The relationship between the subject in Spec C and the verb in C is duplicated by the relationship between the trace of the subject in Spec I and the trace of the verb in I. The traces of the subject and the verb thus serve no additional licensing function, and since they are redundant they must delete.

A drawback of Heycock and Kroch's (1994) proposal for the SLF construction is that it involves topic movement in violation of the CSC. Their claim is that CSC-violating topicalization is generally possible.⁶⁶ A point of debate is whether SLF examples have

⁶⁶ Heycock and Kroch (1994) demonstrate the generality of CSC-violating topicalization by showing that it also exists in VP coordination, giving the following example.

- (i) **Diesem Vorschlag will die Kommission folgen**
 this suggestion wants the committee follow

und eine neue Unterkommission einsetzen.
 and a new sub-committee establish

'The committee wants to follow this suggestion and establish a new sub-committee.'
 (German, Heycock and Kroch 1994, p. 272, ex. 28a.)

This example does not necessarily supply additional evidence, however, since it might easily also be a SLF example, but one in which the finite verb has been gapped from the second conjunct.

- (ii) **Diesem Vorschlag will die Kommission folgen**
 this suggestion wants the committee follow

und will eine neue Unterkommission einsetzen.
 and ~~wants~~ a new sub-committee establish

'The committee wants to follow this suggestion and establish a new sub-committee.'
 (German, Heycock and Kroch 1994, p. 272, ex. 28a.)

the types of interpretations that permit CSC-violating extraction. Lakoff (1986) identifies two relationships that exist between conjuncts of coordinations that permit extraction from initial conjuncts in violation of the CSC. The first is the cause/result scenario and the second the violation of conventional expectations, already discussed above. Heycock (1994) points out that Höhle (1983) observes that there is a special relationship between the interpretations of the two conjuncts of SLF. They say that this relationship licenses the CSC-violating extraction (p. 217). Kathol (1995) claims no such relationship is required to exist between the conjuncts of the SLF (p. 92, fn. 5). Höhle (1983) explicitly states that the facts of SLF and those of English coordination admitting CSC-violations are significantly different.

As mentioned above, small-conjuncts solutions need to deal with the challenge of examples of buried-subject SLF. Small-conjuncts solutions consider the subject to be external to both conjuncts. It is awkward to maintain this position when the subject occupies a low position such as Spec v. Heycock and Kroch (1994) note this difficulty with the following example and address this challenge explicitly.

Gapping of the finite verb can occur in non-SLF topic initial coordination, as illustrated by the following example.

- (iii) **Mithilfe der Spracherkennung werden die multimedialen Daten**
 with.help of.the speech.recognition be.PL the multimedia data
eingelezen und wird aus den Sprachsignalen ein Text erstellt,
 read.in and be.SING from the speech.signal a text generated
der die gesprochenen Inhalt der Audio-Daten wiedergibt.
 which the spoken content of.the audio files represents

'By means of speech recognition the multimedia data are read and a text is generated from the speech signal which represents the spoken content of the audio data.'

The initial element of this example is a topic. It is clear an example of gapping and not of VP-coordination since the person forms of the two verbs do not match. Such a mis-match is characteristic of gapping (Wilder 1997).

- (5.65) **Toen kwam er een jager aan en schoot het haasje dood.**
 then arrived there a hunter PART and shot the hare dead
'Then a hunter arrived and shot the hare dead.'
 (Dutch, Heycock and Kroch 1994, p. 267, ex. 19)

Heycock and Kroch (1994) maintain that the first conjunct of SLF is I', which would mean for this example that the subject, **een jager**, is internal to the first conjunct. They work around this impasse by stipulating that the well-formedness condition on coordination is checked at LF, at which point the subject, **een jager**, has raised to replace the expletive. The buried-subject examples (5.61) - (5.63) remain problematic here, however, since there is no precedent for the claim that the subjects in these examples raise above the scrambled objects at LF.⁶⁷

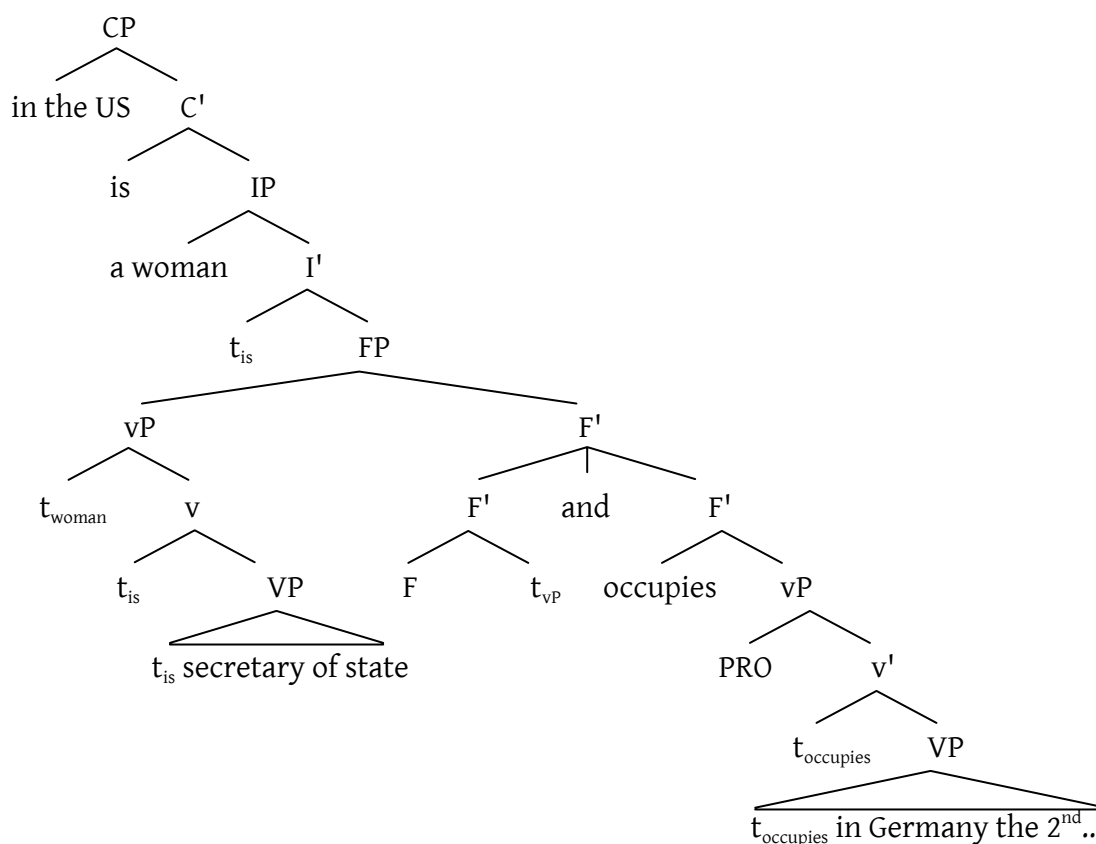
Kathol (1995) provides an account with the advantage that it restricts SLF-gaps to subjects only and that it avoids movement in violation of the CSC. His account is, however, formulated in the framework of Head-Driven Phrase Structure Grammar (HPSG), which means that it is not possible to directly import his solutions into the Minimalist Program. Kathol (1995) proposes that the relationship standardly assumed between structural dominance and linear order of constituents should be relaxed. If a VP is coordinated with another VP that has a V2 configuration, that VP is allowed to act as C' (Johnson 2002, p. 111). I agree with Johnson's (2002) opinion that the advantages of Kathol's (1995) account must be weighed against the cost of eschewing the restrictive mapping between dominance and linear order.

Johnson (2002) is concerned about avoiding the necessity of CSC-violating movement in his analysis of SLF. He proposes an account that is a hybrid between a big-conjuncts solution and a small-conjuncts solution. His account can be considered

⁶⁷ Kathol (1995) mentions the possibility that the pronominal object of the first conjunct undergoes scrambling only after coordination has taken place. He points out that this possibility is not optimal since such scrambling would take place in violation of the CSC (p. 92).

a small-conjuncts solution because the subject surfaces externally to the two conjuncts. His account can be considered a big-conjuncts solution because the non-initial conjunct contains a structural subject slot, which is occupied by PRO. The presence of PRO derives the lack of reconstructed readings.

(5.66) SLF Structure proposed by Johnson (2002) (adapted from p. 125, ex. 38)



Johnson (2002) proposes that the SLF is coordination of two vPs. As stated above, one of his aims is to eliminate CSC-violations. He proposes a functional projection, FP that dominates vP. The first vP conjunct moves to Spec F. Johnson's (2002) proposal states that when vP has moved to Spec F, the subject and the verb no longer give rise to CSC violation when they move out of vP. The account is founded on independent evidence for the existence of FP. This evidence takes the form of raising word orders attested in West Flemish, which can only be explained by the existence of FP.

A disadvantage of Johnson's (2002) structure that I will steer clear of in my own proposal involves its representation of tense. SLF may contain verbs of two different tenses.

- (5.67) **In den Wald ging der Jäger und wird einen Hasen fangen.**
 into the woods went the hunter and will a hare catch
'The hunter went into the woods and will catch a hare.'
 (German)

The tree in (5.66) includes only a single IP, so it is unclear how it is possible for the two conjuncts of the SLF to have two separate tenses.

5.1.3.1.2 Big-conjuncts solutions

In this section, I review the accounts of authors who have proposed a big-conjuncts solution, examining first accounts that use a deletion mechanism to explain the unpronounced subject of the second conjunct and then accounts that analyze the second-conjunct subject as a null pronoun.

Deletion accounts of SLF: Wilder (1994, 1997) analyzes SLF as coordination of two CPs. Zwart (1991) analyzes SLF as either coordination of two CPs or coordination of a CP and an IP. Both authors use deletion to account for the unpronounced subject of the second conjunct.

- (5.68) **In den Wald ging der Jäger und ~~der Jäger~~ fing einen Hasen**
 into the woods went the hunter and ~~the hunter~~ caught a hare
'The hunter went into the woods and caught a hare.'
 (German, Wilder 1994, p. 76, ex. 59)

The deletion account for SLF encounters the same difficulty as the deletion account for subject-initial coordination, which was discussed with reference to (5.45).

Under Zwart's (1991) account, deletion is subject to the following condition.

(5.69) Deletion of a category A in the second of two conjoined clauses under identity with an antecedent B in the first of the two conjoined clauses is possible if and only if:

- (i) A occupies the leftmost position in its clause, and
- (ii) A and B occupy the same syntactic structural position

(Zwart 1991, ex. 17)

Zwart (1991) explicitly states that with 'syntactic structural position' in (5.69)ii he is not referring to linear position, but rather to specific position in the syntactic structure, such as Spec I or Spec C. Reference to specific syntactic position, however, fails to capture the acceptability of buried-subject SLF examples. The following example is problematic for Zwart's (1991) account.

(5.70) **Es stand gestern ein Mann vor der Tür**
 it stood yesterday a man before the door

und bat mich um eine Zigarette.
 and asked me for a cigarette

'A man stood in front of the door yesterday and asked me for a cigarette.'
 (German, Wilder 1997, p. 96, ex. 150a.)

In the first conjunct, **ein Mann** occupies Spec v. If Spec v is the topmost position in the second conjunct and if deletion in the second conjunct occurs from this position, it is necessary to explain why the pronoun **mich** is able to remain in a low (vP internal) position without being licensed in this position by contrastive stress.

Wilder (1997) uses relative syntactic position rather than absolute syntactic position in his account. He specifies that the antecedent of the ellipsis site and the deletion site must stand in the same hierarchical relation within their conjuncts. Wilder (1997) finds this constraint problematic for buried subject examples such as (5.70) and the examples (5.61) - (5.63) above. His solution to this problem is the same as is offered by Heycock and Kroch (1994). He states that the parallelism between structural positions is evaluated at LF. At LF, the post-verbal subject raises to the

position of the expletive, and this raising guarantees that context identity is satisfied for (5.70). In (5.61) - (5.63), the object has scrambled to a position more prominent than that occupied by the first-conjunct subject and this configuration is not subsequently reversed at LF. The first-conjunct subject is nonetheless still the argument that controls deletion. Apparently neither reference to relative syntactic position nor to relative prominence is sufficient. The relevant connection between the deletion antecedent and the deletion site appears to be grammatical relation: the two must both be subjects.

Null subject accounts of SLF: The earliest null subject account is that of van Zonneveld (1992), who analyzes SLF in Dutch. Van Zonneveld (1992) considers SLF to be a coordination of two main clauses, the second of which contains an unpronounced subject at its far left edge. He describes the unpronounced second subject of the SLF as a 'reduced' subject, in essence, a null subject. Van Zonneveld correctly locates the null subject to the left of the finite verb in the same subject position that an overt pronoun would occupy. Recall that the fact that V2 of SLF appears in its non-inverted form in the second person singular in Dutch demonstrates that this is the correct position for the subject, as was shown in (5.13) in 5.1.1.3.

- (5.13) **Als je niet verder kunt, dan keer je je om**
 if you not further can then turn you yourself around
en gaat/*ga dezelfde weg terug.
 and go /go.inverted the -same way back
'If you can't go further, then turn round and go back the way you came.'
 (Zwart 1991, ex. 7, quoted by Heycock and Kroch 1993, p 22. ex. 61)

The deficiency of van Zonneveld's account is that it does not address the question of why this reduced subject cannot be construed with extrasentential reference.

Hartmann (1994) maintains that the unpronounced subject of the second conjunct of SLF receives an E-type reading. She analyzes SLF as coordination of two CPs, the second containing an empty category following the finite verb. She claims that this empty category is a sort of *pro* and is licensed by the finite verb from its position in C. Her *pro* has its content identified by being bound by an empty operator in Spec C.

- (5.71) [_{CP} In den Wald ging der Jäger_i] und [_{CP} Op_i fing pro_i einen Hasen]
 Into the woods_i went the hunter and Op_i caught pro_i a hare
 'The hunter went into the woods and caught a hare.'
 (German, adapted from Hartmann 1994, p. 6, ex. 8)

An advantage of Hartmann's (1994) account is that the presence of *pro* blocks the possibility of reconstruction and accounts for the fact that SLF never has interpretations in which the subject is reconstructed into the two conjuncts.

Hartmann's (1994) account suffers from the same disadvantage as the accounts of Zwart (1991) and Wilder (1994, 1997), namely, that it does not correctly capture the association between the unpronounced subject in the second conjunct and argument in the first conjunct with which it is associated. Hartmann (1994) states that in coordinate structures *pro* is interpreted as discourse bound, which she specifies as meaning that it is "*...koindiziert mit einer kongruierenden overtten NP an der gleichen Position eines vorangehenden Konjunks,*" ('co-indexed with a congruent overt NP in the same position in a preceding conjunct.')

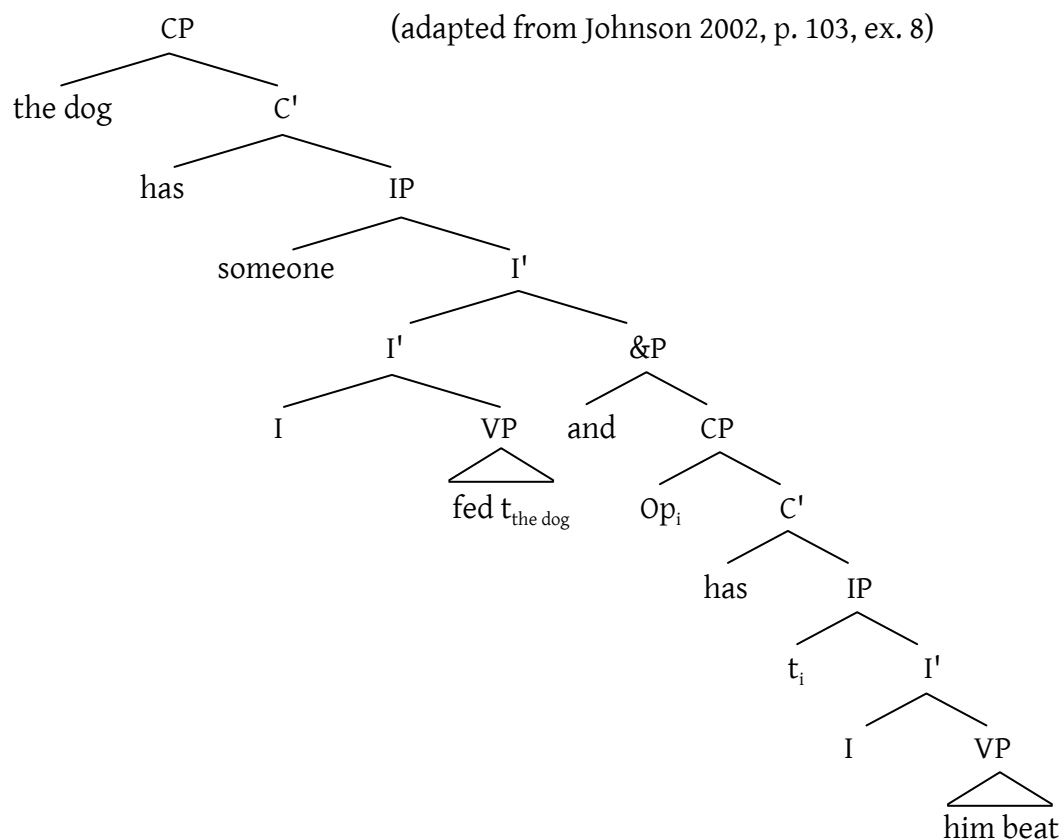
The examples of buried-subject SLF discussed above have shown us that it is not sufficient to claim that the overt argument associated with the unpronounced subject is in the same position. Instead, it is necessary to make reference to the fact that that overt argument must also be a subject.

The account of Buring and Hartmann (1998) adopts the null operator analysis of Hartmann (1994). The difference is that under the account of Buring and Hartmann

(1998) the second conjunct of the SLF is an adjunct that can adjoin the main clause at any height. Buring and Hartmann's (1998) structure is represented with the tree in (5.72), which uses the SLF example in (5.31) (repeated.)

- (5.31) **Den Hund hat einer gefüttert und hat ihn geschlagen.**
 the dog has one fed and has him beat
'Someone fed the dog and hit it.'
 (German, Schwarz 1998, p. 213, ex 54b; Johnson 2002, p. 98, ex. 2a.)

(5.72) SLF Structure of Buring and Hartmann (1998)



This structure is appropriate for those SLF examples in which the first conjunct subject takes scope over the entire construction. The structure is superior to competing proposals in the literature since it involves two representations of tense (problematic for Johnson 2002). Also, because it involves adjunction and not coordination, it avoids CSC-violations (problematic for Heycock and Kroch 1994).

Furthermore, it circumvents the interpretation problems inherent in deletion accounts. The lack of reconstructed readings for SLF is explained by the fact that the null operator blocks reconstruction. Buring and Hartmann (1998) state that the null operator must be bound by a subject. This stipulation, which makes reference to the grammatical relation 'subject' eliminates the problem of buried-subject SLF, namely that there is no clear parallelism in linear order or structural position between the unexpressed second-conjunct subject and the first-conjunct argument with which it is associated. For these reasons, I adopt the position that (5.72) is the structure underlying SLF in cases in which the unexpressed subject in the second conjunct does not receive an E-type reading. My claim is that there must necessarily also exist another structure underlying SLF that accounts for those examples in which the unexpressed subject receives an E-type reading and is therefore clearly not c-commanded by the first-conjunct subject in the syntax.

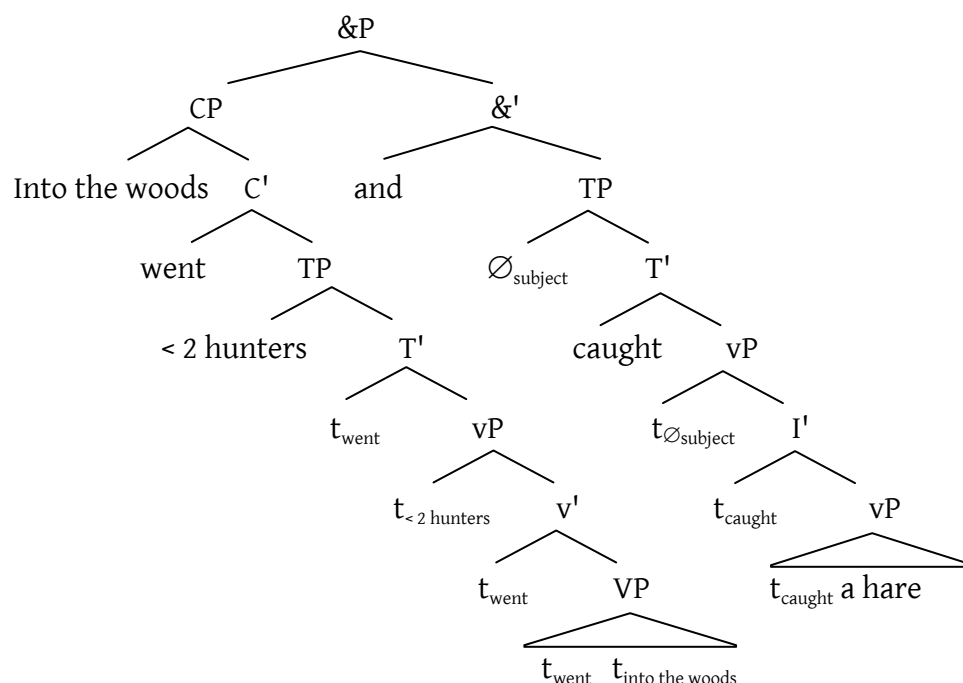
5.1.3.2 *Null subject structure for SLF*

In this section, I put forward a null-subject structure for SLF. My position is that this structure alternates with the adjunction structure (5.72), proposed by Buring and Hartmann (1998) and underlies SLF in cases in which the unexpressed second-conjunct subject is interpreted with an E-type reading (cf. (5.32) repeated).

- (5.32) **In den Wald gingen weniger als zwei Jäger**
 into the woods went less than two hunters
und fingen einen Hasen.
 and caught a hare
'Less than two hunters went into the woods and caught a hare.'
 (German, Hartmann 1994, p. 16, ex. 37)

I propose a structure in which &P combines a CP with a TP and in which there are no positions in the tree that c-command both conjuncts.

(5.73) Null-subject structure for SLF (cf. (5.25))



This structure has four advantages that are immediately evident. First, it accounts for the characteristic of SLF discussed in 5.1.1.2, namely that no element can intervene between the finite verb and the conjunction. The finite verb occupies T. The V2 word order requirement guarantees that Spec T is the only position that an element can occupy between the conjunction and the finite verb. Spec T cannot be filled by another element, since it is occupied by the null subject. Second, the fact that the null subject precedes the verb accounts for the fact, discussed in 5.1.1.3, that in Dutch SLF involving the second person singular, V2 must occur in its non-inverted form. Third, the fact that the unpronounced subject of the second conjunct is a null pronoun guarantees blocking of reconstruction readings, described in 5.1.1.7. Fourth, the subject of the first conjunct does not c-command the second conjunct and for this reason E-type readings, discussed in 5.1.1.8, arise when this structure is used.

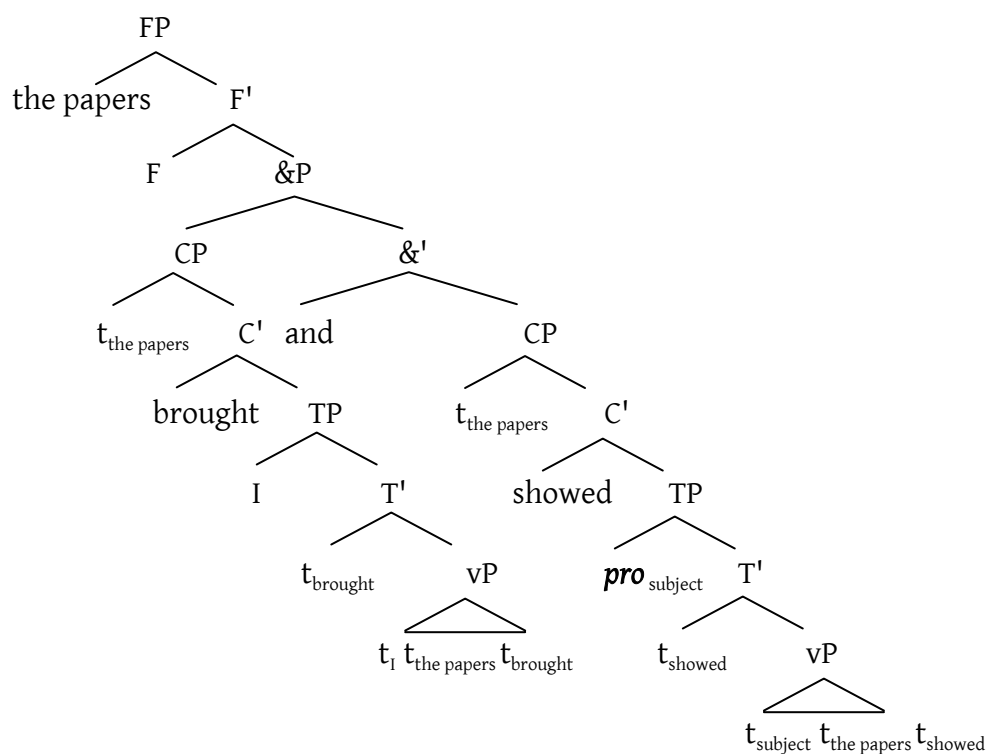
In (5.73), the null subject of the second conjunct occupies the highest position in its conjunct. We have seen that the null object of the Norwegian EOC and the null subject of the Baule ESC fulfill the Identification Condition because they occupy maximal positions in their conjuncts and therefore have access to the Coupling Mechanism. In 5.1.2, I have argued that subject-initial coordination has two structures and that one of these involves a null subject that is licensed by virtue of being the top element in its conjunct. I propose that the null subject of SLF is another example of a null pronoun that fulfills Formal Licensing by occupying such a position. As with the subject-initial case, I claim that Formal Licensing of null subjects is fulfilled by default in Dutch and German. I would like to put forward that the Identification Condition is fulfilled by a variant of the Coupling Mechanism. The use of the Coupling Mechanism indirectly prevents null subjects from appearing in simple sentences in German and Dutch and explains why null subjects in SLF are never allowed to have extrasentential reference, a fact that was discussed in 5.1.1.1. Additionally, the Coupling Mechanism will eliminate the need to refer to parallelism in linear order or hierarchical position, which becomes problematic in the buried-subject case, and will provide insight into why unexpressed second-conjunct subjects must necessarily be associated with first-conjunct subjects. Further, the requirement that the null subject must be in a top position in its conjunct to have access to the Coupling Mechanism for Identification purposes accounts for the fact, described in 5.1.1.4, that SLF cannot contain an unpronounced subject in a sentential complement. The subject of a sentential complement does not occupy the top position of its conjunct and for this reason can never fulfill formal licensing.

This requirement also explains why ATB-topicalization of an object is incompatible with the SLF construction, as demonstrated by (5.21) (repeated).

- (5.21) ***Die Unterlagen brachte ich ins Büro**
 the documents brought I into.the office
und zeigte *(sie) den Kollegen.
 and showed *(them) to.the colleagues.
 Intended reading: 'I brought the documents to the office and showed them to the colleagues.' (German, Höhle 1983, ex. 51a.)

I claim that ATB-extraction is effected with both and FP and an &P. If (5.21) were possible, it would have the structure illustrated in (5.74).

- (5.74) Object topicalization in SLF (not acceptable)



This structure does not serve to license the null subject, since the null subject cannot attain the maximal position in its conjunct.

The nature of the variant of the Coupling Mechanism used for Identification of SLF null subjects will be discussed in greater detail in the next subsection. This subsection concludes with the discussion of two problematic aspects of the proposed account.

The first problematic aspect is that the null-subject SLF structure (5.73) involves coordination of two unlike categories. Such coordination is a violation of the Law of Coordination of Likes (Williams 1981). I would like to put forward the conjecture that the Law of Coordination of Likes can be overridden in the case of SLF since CP/TP coordination provides conditions for the licensing of the null subject and therefore serves as a Last Resort alternative to CP/CP coordination which does not provide these conditions. If a null subject were possible in the second conjunct of CP/CP coordination, SLF constructions such as (5.16) would be expected to be acceptable with the structure shown by the bracketing.

- (5.16) * $[_{CP}$ **Gestern** ist $[_{IP}$ **Margot krank gewesen** $]$]
 yesterday is Margot sick been
und $[_{CP}$ $\emptyset_{subject}$ **glaubt** $[_{IP}$ **jeder** **sei im Bett geblieben** $]$]
 and believes everyone is in bed stayed
 Intended reading: 'Margot was sick yesterday and everyone believes she stayed in bed.' (German, Heycock and Kroch 1994, p. 261, ex. 7)

However, (5.16) is not acceptable. An account in which topicalized null pronouns, i.e. null pronouns in Spec C, fail to be licensed because they do not have access to the Coupling Mechanism would serve to neatly explain the unacceptability of (5.16).

The fact that objects cannot go unexpressed in SLF-coordination, discussed in 5.1.1.5, supports the point of view that topicalized pronouns do not have access to the Coupling Mechanism.

- (5.19) ***Gestern zeigte Hans die Briefmarken dem Onkel**
 yesterday showed Hans the stamps the uncle
und verkaufte Otto der Tante.
 and sold Otto the aunt
 Intended reading: 'Yesterday Hans showed the stamps to his uncle and Otto sold (them) to his aunt.' (German, Kathol 1995, p. 81, ex. 6)

A null object would be expected to be able to reach the topic position of the second conjunct by topicalization.

(5.75) [_{CP} $\emptyset_{\text{object}}$ **sold Otto to his aunt**]

The unacceptability of (5.19) suggests that this movement is insufficient to permit the licensing of the null object. Apparently, null pronouns in topic position occupy top positions in their conjuncts, but nonetheless fail to have access to the Coupling Mechanism and therefore cannot fulfill the Identification Condition. I would like to speculate that topicalized null pronouns do not have access to the Coupling Mechanism because the topic position is conventionally interpreted as being occupied by a null operator that receives its content from the discourse context.

(5.76) [_{CP} Op [_{IP} *ec hab' ich schon gesehen*]]
 have I already seen
 'I have seen him/it/her/them already.'
 (German, Huang 1984, p. 546 ex. 47a. and c.)

By convention, the element in the null operator position links to discourse. I would like to speculate that null pronouns in A-positions (such as the Spec I subject position) and not in A'-positions (such as the topic position) are able to use the Coupling Mechanism.

The second problematic aspect is that it is not immediately clear how the structure in (5.73) is consistent with existence of SLF constructions in which the sentence initial element is interpreted with scope over both conjuncts, discussed in 5.1.1.6.

(5.23) **In Italien kaufte Hans einen Wagen und meldete ihn sofort an.**
 In Italy bought Hans a.ACC car and registered it immediately PART
 'Hans bought car in Italy and registered it immediately.'
 (German, Buring and Hartmann 1998, p. 178, ex. 14a.)

The initial element cannot take syntactic scope over both conjuncts in (5.73) since there is no position high enough in the tree to c-command both conjuncts. A

plausible explanation for the interpretation of (5.23) is that the wide-scope reading does not result from a syntactic structure in which the topicalized adverbial is moved ATB from both conjuncts, but rather that the sentence-initial adverbial is simply interpreted as having scope over both conjuncts.

5.1.3.3 *Coupling Mechanism in SLF*

The use of the Coupling Mechanism to fulfill Identification has the effect of removing a major objection to a null-subject analysis for SLF. Authors have avoided positing a null subject in SLF since German and Dutch are not generally null subject languages. If SLF is analyzed as containing a null subject, it is curious that this subject can never be interpreted with extrasentential reference. In Chapter 4, I have accounted for similar restrictions on the reference of null pronouns in Norwegian EOC and Baule ESC by means of the Coupling Mechanism. I put forward that a Coupling Mechanism is also at work in the German/Dutch SLF. It is similar, but not identical to the EOC/ESC-Coupling Mechanism.

Recall that the core of the Coupling Mechanism is the construction of a definite description from an antecedent clause. The null subject is able to identify its referent using this definite description. Thus (5.6) would have the representation in (5.77).

- (5.6) **Das Kind ließ er fallen und rannte zum Hinterausgang.**
 the.ACC child let he fall and ran to.the rear.exit
'He dropped the child and he ran to the rear-exit.'

- (5.77) **The child, he dropped and [the person who dropped the child] ran to the rear exit.**

In the previous section, we saw that accounts that derived constraints on reference using absolute or relative structural position or relative prominence encountered problems with buried-subject SLF examples such as the following.

- (5.61) **Gestern sprach sie der Jäger an und zeigte ihr den Weg.**
 Yesterday speak her the hunter PART and showed her the way
'Yesterday the hunter spoke to her and showed her the way.'
 (German, Kathol 1995, p. 87, ex. 16)

In (5.61), the object of the first conjunct is structurally more prominent than the subject. The unexpressed subject of the second conjunct is nonetheless required to be construed with the subject and not with the object of the first conjunct. Recall that it was concluded the difficulties with buried-subject SLF can be resolved only by an account that makes reference to grammatical relation (i.e. type of Case checked) in order to explain the fact that the unexpressed second-conjunct subject must be related to the first-conjunct subject.

I would like to posit that the definite descriptions used by the null subject of SLF to recover content are restricted to being definite descriptions containing a subject relative clause. In other words, a definite description containing a relative clause in which the object has been relativized is not admitted by the SLF-Coupling Mechanism.

- (5.78) ***The child, he dropped and [the child that he dropped] ran to the rear exit.**

Under the version of the Coupling Mechanism presented in Chapter 4, a restriction is also in place that limits which definite descriptions are admissible. This restriction is the Ambiguity Prohibition. The Ambiguity Prohibition requires the definite description used to fix the reference of the null pronoun to be unique. In Norwegian and Baule unique descriptions can be isolated because they are required to fulfill a Matching Constraint. In German and Dutch, unique descriptions can be isolated because they are specified by the language to be admissible only if they are definite descriptions with subject relative clauses.

The restriction that only definite descriptions with subject relative clauses are admissible is quite stipulative in nature. Such stipulation, is, however, not entirely unprecedented. Rizzi (1986) holds that null objects recover their reference in Italian because they are automatically assigned arbitrary reference. Farrell (1990) maintains that null objects in Brazilian Portuguese recover reference because they are assigned third person singular reference. In both of these cases, Identification hinges crucially on the availability of a single conventionalized or default interpretation.

My claim is parallel to these two cases. Fulfillment of the Identification Condition requires the Ambiguity Prohibition to be upheld. In order for the Ambiguity Prohibition to be upheld, only a unique definite description must be admissible. In order to obtain a unique definite description, the interpretational system falls back on the default definite description. The default definite description is specified to be the definite description containing a subject relative clause.

It is not entirely arbitrary however, that subject relative clauses are involved in the default definite description. Processing experiments performed using Dutch relative clauses that are unbiasedly subject-relative/object-relative ambiguous show that there is a clear preference for interpreting the subject as the head of the relative clause (Frazier 1987). Similar results have been reported for German (Mecklinger, Schriefers, Steinhauer and Friederici 1995). Apparently, the subject relative clause serves as a sort of default first assumption for processing purposes. Without examining the details of what makes the subject relative clause the first assumption, I would like to speculate that this status is related to the fact that subject relatives are also chosen as the default interpretation used by the Coupling Mechanism.⁶⁸

⁶⁸ There is a certain amount of evidence that points to the fact that the Ambiguity Prohibition may also be at work in the version of the Coupling Mechanism used by null subjects in SLF. Examples of

5.1.3.4 Summary of SLF account

I have argued that subject-initial coordination involves two structures, an ATB-structure in which the subject takes scope over both conjuncts and a null-subject structure in which the second conjunct has a null subject. I have proposed that SLF-coordination is similar to subject-initial coordination in that it also involves two structures, the adjunction structure of Büring and Hartmann (1998) in (5.72) and a structure involving a null subject in (5.73). The existence of the null-subject structure explains why there are SLF-coordination examples in which the second-conjunct subject receives an E-type reading. The null subject in the null-subject structure fulfills the Formal Licensing condition by default. It fulfills the Identification Condition because it occupies a maximal position in its conjunct and has access to the SLF-variant of the Coupling Mechanism, which requires that the definite description used to fix the reference of the null subject involve a subject relative clause. The fact that the Coupling Mechanism is involved in licensing explains why null subjects in SLF-coordination can not be interpreted with extrasentential reference, but rather must be associated with first-conjunct subjects.

SLF in which V1 is a verb with a non-agentive nominative argument and an Experiencer dative argument are unacceptable.

- (i) ***Ihm ist beim Vortrag ein Fehler unterlaufen**
 him is by.the lecture a mistake under-run

und wurde nicht korrigiert.
 and was not corrected

'He made a mistake during the lecture and it was not corrected.'
 (German, te Velde 2002, p. 327. ex. 30)

I would like to conjecture that the unacceptability of this example can be traced to the fact that Experiencers often pattern with subjects. The first conjunct of this SLF fails to yield a single definite description that contains a relative clause that is straightforwardly unambiguous. This example is unacceptable because it is unable to respect the Ambiguity Prohibition.

5.2 Adjunct Object Gaps in Dutch and German

Dutch and German both exhibit constructions in which the object of the verb in a prepositional adjunct is unexpressed.

- (5.79) **Het is niet toegestaan om een PC_i langer dan een kwartier**
 it is not allowed about a PC_i longer than a quarter-hour
zonder gap_i te gebruiken bezet te houden.
 without gap_i to use occupied to hold
'It is not allowed to occupy a PC longer than a quarter hour without using it.'
 (Dutch, from http://www.library.uu.nl/debibliotheek/bibliotheekenme/centralebiblioth/huisregels/12044_169.html)
- (5.80) **Dann legt man das Tape_i – ohne gap_i zu dehnen – auf die Haut.**
 then lays one the-ACC tape_i without gap_i to stretch on the skin
'Then one lays the tape on the skin without stretching it.'
 (German, from <http://www.kinesiotaping.de>)⁶⁹

In the literature, unexpressed objects that occur in prepositional adjuncts such as in these examples are standardly analyzed as parasitic gaps (Bennis and Hoekstra 1985a, 1985b, Felix 1985, Webelhuth 1992, Müller 1993). In order not to presuppose this analysis, I designate the gap, an 'Adjunct Object Gap' (AOG).

Beermann (1992) proposes that the gap is a null object with special licensing conditions.

⁶⁹ In German, Adjunct Object Gaps occur in prepositional adjuncts introduced by the adverbials **ohne**, 'without' and **anstatt**, 'instead of', (i), but do not occur in adjuncts introduced by, **um**, 'in order to', (ii).

- (i) **Lisa hat Hans anstatt (ihn) zu küssen geohrfeigt.**
 Lisa has Hans.ACC instead (him) to kiss slapped.in.the.face
'Lisa slapped Hans in the face instead of kissing him.'
 (German, Kathol 2001, p. 324, ex. 24a.)
- (ii) **Lisa hat Hans um *(ihn) zu überzeugen belogen.**
 Lisa has Hans in-order *(him) to convince lied-to
'Lisa lied to Hans in order to convince him.'
 (German, Kathol 2001, p. 324, ex. 24b.)

(5.81) **Er schmeisst den Brief_i ohne pro_i zu lesen weg.**

He throws the letter_i without pro_i to read away

'He throws the letter away without reading it.'

(German, Beermann 1992, p. 42, ex. 9a.)

Once again with the AOG-construction, a null-pronoun account faces substantial challenges. If the object gap is to be analyzed as a null object, the fact that it cannot be interpreted with extrasentential reference must be explained.

(5.82) ***Het is niet toegestaan om langer dan een kwartier**

it is not allowed about longer than a quarter-hour

zonder te gebruiken hier te zitten.

without to use hier to sit

Intended reading: *'It is not allowed to sit here longer than a quarter hour without using it (something in particular).'*

An AOG cannot be construed as referring to an extrasentential antecedent or to a discourse entity. Instead, the AOG must be construed with the object of the matrix clause. Furthermore, Dutch and German are not generally object drop languages. In the case of Norwegian EOC, Baule ESC and Dutch/German SLF, I have addressed these challenges with an account involving null pronouns that fulfill Identification using a Coupling Mechanism. This section explores the extent to which the Coupling Mechanism has relevance for the AOG-construction.

Initially, the AOG-construction seems an unlikely candidate to fit the pattern of the other constructions investigated in this thesis. The unexpressed argument occurs in an adjunct and not in a conjunct. Clearly it would be difficult to motivate an account that analyzes the AOG-construction as coordination. Furthermore, there are no grounds on which to argue that the unexpressed argument is not c-commanded by the matrix argument with which it stands in relation. The object gap never receives an E-type reading, even in sentences in which the object gap is associated with an appropriate quantified NP.

(5.83) **Jens hat nur zwei Briefe ohne zu korrigieren abgeschickt.**

Jens has only two letters without to correct sent.off

'Jens sent off only two letters without correcting them.'

(German)

If the gap were to receive an E-type interpretation, the sentence would mean that Jens sent off only two letters and that he did not correct either of those letters. The sentence does not have this interpretation, however. This sentence does not entail the clause, *'Jens sent off only two letters'*. It is perfectly compatible with situations in which Jens sent off more than two letters. The sentence can only be construed to mean that there are two letters that were both uncorrected and sent off. Because of these interpretations we can conclude that the gap is not an E-type pronoun. AOG constructions have other characteristics, however, that are quite reminiscent of EOC/ESC/SLF and which suggest that investigation of the AOG-construction could contribute further insight into the sort of unexpected occurrences of unexpressed arguments claimed to be null pronouns licensed by the Coupling Mechanism. After distinguishing AOG-constructions from pseudo-AOG-constructions in 5.2.1, I go on to introduce these characteristics in 5.2.2. In 5.2.3 the parasitic gap analysis is discussed. Finally, in 5.2.4, I develop my own analysis. I argue that the AOG is a null object pronoun and that the limits on its distribution and on its interpretation derive from the fact that it fulfills Identification using the Coupling Mechanism. It receives a bound reading because it is c-commanded by the arguments of the matrix clause verb. Under the proposed account, this c-command is incidental and not critical to the licensing of the AOG.

5.2.1 *Distinguishing real AOGs from pseudo AOGs*

Before I present the AOG-construction data, it is necessary to delimit the phenomenon under consideration. Adjunct Object Gaps must be carefully

distinguished from another variety of unexpressed object that occurs in prepositional adjuncts.

- (5.84) **Mit scharfsichtigem Verständnis der Situation**
with sharp-sighted understanding the-GEN situation

kritisiert er Zustände ohne zu verletzen
criticizes he conditions without to injure

'With a sharp-sighted understanding, he criticizes situations, but does not hurt.'
(German, from http://www.cyrclenet.ch/hans_fitze/portrait.htm)

In this sentence, the verb of the prepositional adjunct, **verletzen**, 'to injure', is understood as acting on something that does not suffer injury as a result. The difference between the understood object of (5.84) and the Adjunct Object Gap is that there is no unique element, pronoun or noun, that can be substituted for the understood object without altering the interpretation of the sentence. The understood object in (5.84) could be taken to be *'people in general'* or *'people's feelings'*, but speakers do not feel that one is necessarily more appropriate than the other. Another example with such an understood object is the Dutch example (5.85).

- (5.85) **De schouderriemen moeten zich gemakkelijk langs schouders**
the shoulder-straps must themselves easily along shoulders

en borst en onder de oksel plooien, zonder te hinderen.
and breast and under the armpits fold, without to hinder

'The shoulder straps have to fold comfortably along the shoulders and chest and under the armpits, without getting in the way.'
(Dutch, from <http://www.basecamp.be/rugzak.htm>)

In (5.85) the verb **hinderen**, 'to hinder,' cannot be interpreted as having an unambiguous direct object. The direct object is understood instead to be something unspecified along the lines of *'the wearer'* or *'walking'*. Speakers are not in agreement which possibility is the right one and generally feel that if any overt object is added

to the prepositional phrase, the sentence no longer has the same meaning.⁷⁰ I consider understood objects to be a different phenomenon from Adjunct Object Gaps. In the balance of this discussion, I will consider only sentences in which there is clear consensus that the gap is directly associated with the object of the matrix verb.

Now that we have delimited the phenomenon, it is possible to show that true Adjunct Object Gaps are projected into the syntax in the same way that overt pronouns are projected. The two tests from Rizzi (1986) used in Chapter 2 demonstrate this fact. First, the object can act as the subject of a small clause.

(5.86) **Ik heb het huis zonder rood te verven verkocht.**

I have the house without red to paint sold
'I sold the house without painting it red.' (Dutch)

(5.87) **Ich habe das Haus ohne wieder weiß zu streichen,**

I have the house without again white to paint
doch verkaufen können.
still sell can

'I could sell the house without painting it white again.' (German)

Second, an object gap can control the subject of an infinitival complement, as illustrated in (5.88) and (5.89).

⁷⁰ Occasionally in German, the infinitive in the prepositional adjunct with an understood object is even written with a capital letter.

(i) **Sie sollen ihr Selbstbewusstsein und ihre persönlichen**
you should their sense.of.self and their personal

Stärken einbringen ohne zu Übertreiben.
strengths introduce without to exaggerate

'You should reference their sense of self and their personal strengths without exaggerating.'
(German, from http://w4.siemens.de/knowledge-zone/de/images/download/cbast_siemensag_interview.pdf)

Again, it is not possible to determine a unique referent for the missing object. German speakers report that the gap does not refer to either their 'sense-of-self' or to 'their personal strengths'. The capital letter suggests the writer has interpreted the infinitive as a noun.

- (5.88) **Ik heb het kind in plaats van te bevelen weg te gaan**
 I have the child instead of to order way to leave
laten blijven slapen.
 let remain sleep
'I let the child stay to sleep instead of ordering him to leave.'
 (Dutch)
- (5.89) **Ich habe das Kind anstatt zu zwingen seine Hausaufgabe zu machen,**
 I have the child instead to force his homework to do
schon wieder den ganzen Abend fernsehen lassen.
 already again the whole evening television-watch allow
'I once again allowed the child to watch TV the whole evening instead of forcing him to do his homework.' (German)

The acceptability of such examples demonstrates that the object gap represents not merely an understood object, but an object that is projected into the syntax like a pronoun. Now that I have delimited the data I will be considering and have demonstrated that the AOG is syntactically represented in the same way as an overt pronoun, I will turn to presenting an inventory of the characteristics of the AOG construction.

5.2.2 *Characteristics of the AOG-construction*

5.2.2.1 *AOG generally alternates with overt pronoun*

In general, AOGs alternate with overt pronouns. Consider the contrast between (5.90), taken from a popular work of prose on the Internet, and (5.91), a variant in which the pronoun has been left out.

- (5.90) **Ich klebe den Zettel, ohne ihn zu lesen, eine Tür weiter wieder an.**
 I glue the note without it to read one door further again on
'I hang the note one door down without reading it.'
 (German, from http://www.fh-ludwigshafen.de/Muellera/bastard/bafh_01.html)

- (5.91) **Ich klebe den Zettel ohne zu lesen eine Tür weiter wieder an.**
 I glue the note without to read one door further again on
'I hang the note one door down without reading it.'
 (German)

German speakers report that both sentences fit into the context of the text and can be interchanged one for the other. The two sentences are not exactly identical in their interpretations, however. Example (5.90) has the additional reading in which the overt pronoun **ihn** has extrasentential reference, which the gap does not.

The contrast between (5.92) and (5.93) illustrates the exception to the generalization that AOGs alternate with overt pronouns. When the prepositional adjunct occurs in sentence-final position, it must contain an overt pronoun.

- (5.92) **Er hat den Brief ohne (ihn) zu korrigieren verschickt.**
 he has the letter without (it) to correct sent
'He sent the letter without reading it.'
 (German)

- (5.93) **Er hat den Brief verschickt ohne *(ihn) zu korrigieren.**
 he has the letter sent without *(it) to correct
'He sent the letter without reading it.'
 (German)

Not only are sentence-final positions excluded, but positions before constituents that are not complements of the verb are excluded as well, as pointed out by Beermann (1992).

- (5.94) ***Er küßte das Mädchen ohne anzuschauen in der Gartenlaube.**
 he kissed the girl without at.to.look in the arbor
 Intended reading: *'He kissed the girl without looking at her in the arbor.'*
 (German, Beermann 1992, p. 43, ex. 11)

The AOG is acceptable if contained in a prepositional adjunct followed by the lexical verb, (5.92), a separable prefix, (5.95), or by a prepositional phrase that is a complement of the lexical verb, (5.96).

- (5.95) **Er schmeisst den Brief ohne zu lesen weg.**
 he throws the letter without to read away
'He threw the letter away without reading it.'
 (German, Beermann 1992, p. 42, ex. 9a.)
- (5.96) **Er stellt das Paket ohne zu öffnen auf den Tisch.**
 he puts the packet without to open on the table
'He put the packet on the table without opening it.'
 (German, Beermann 1992, p. 43, ex. 10b.)

The appropriate generalization appears to be that the prepositional adjunct must be followed by a component or a complement of the verb in order to contain an AOG.

5.2.2.2 AOG never occurs in finite clauses

AOGs do not occur in finite adjuncts.

- (5.97) **Hij heeft het meisje zonder dat hij *(haar) heeft aangekeken gekust.**
 he has the girl without that he *(her) has at-looked kissed
'He kissed the girl without looking at her.'
 (Dutch)

Further, a sentential complement of a bridge verb cannot contain an AOG.

- (5.98) ***Ik heb de kat zonder te zeggen dat ik heb gekocht meegenomen.**
 I have the cat without to say that I have bought taken
 Intended reading: *'I took the cat along without saying that I had bought him.'*
 (Dutch)

In German, neither a dass-sentential complement nor a bare sentential complement can contain an object gap.

- (5.99) ***Ich habe den Film, ohne zu sagen, dass ich kannte, einfach nochmals mit meinen Freunden angeschaut.**
 I have the film without to say that I knew
 simply again with my friends watched
 Intended reading: *'Instead of saying that I knew it, I simply watched the film again with my friends.'* (German)

- (5.100) ***Ich habe den Film, ohne zu sagen, kannte ich,**
 I have the film without to say know I
einfach nochmals mit meinen Freunden angeschaut.
 simply again with my friends watched
 Intended reading: *'Instead of saying that I knew it, I simply watched the film again with my friends.'* (German)⁷¹

It is also worth noting that the AOG cannot occur in a prepositional phrase that is the complement of a noun.

- (5.101) ***Hij heeft er_i zonder de reactie van anderen gap_i op**
 he has there without the reaction of others to
af te wachten negatief op geantwoord.
 on to wait negatively to answered
 Intended reading: *'He answered it negatively without waiting for the reactions of others to it (AOG).'*
 (Dutch, Huybregts and van Riemsdijk 1985, p. 172, ex. 12)

This fact appears to be related to the prohibition of AOG in sentential complements.

5.2.2.3 AOG exhibits an alignment effect

There is an alignment constraint in operation between the Adjunct Object Gap and the object of the matrix clause with which it is related. No general consensus has been reached in the literature concerning the exact nature of this constraint. Kathol (2001) states that there is a strict Case matching requirement between the matrix

⁷¹ It is necessary to check both possibilities in German due to regional differences in extraction possibilities from sentential complements.

- (i) **Welchen Film hast du gesagt, dass du kanntest?**
 which film have you said that you knew
'Which film did you say that you knew?'
 (German)
- (ii) **Welchen Film hast du gesagt, kanntest du?**
 which film have you said knew you
'Which film did you say you knew?'
 (German)

Some speakers prefer (i) and some (ii).

object and the prepositional object with which it is related. He gives the following contrast.

- (5.102) ***Hans hat seine Tochter ohne Geld zu geben unterstützen können.**
 Hans has his daughter without money to give support can
 Intended reading: 'Hans was able to support his daughter without giving her money.'
 (German, Kathol 2001, p. 328, ex. 33b.)

- (5.103) **Karl hat seine Tochter ohne Geld zu geben helfen können.**
 Karl has his daughter without money to give help can
 'Karl was able to help his daughter without giving her money.'
 (German, Kathol 2001, p. 327, ex. 31b.)

According to Kathol (2001), (5.102) is unacceptable because the matrix object requires accusative Case and the object gap requires dative Case. In (5.103), both verbs require an object with dative Case and the AOG is acceptable.

Bayer (1988) holds that this alignment effect is not a requirement on Case matching, but is a requirement on matching of surface form. If the object of the matrix verb has a form that is syncretic with that required by the adjunct object gap, the construction is acceptable.

- (5.104) **Dieser Dame hätte er sich ohne schon mal Geld angeboten zu haben**
 this lady had he self without already once money offered to have
niemals entsinnen können.
 never remembered could
 'He would never have been able to remember this lady if he hadn't offered her money before.' (German, Bayer 1988, p. 420, ex. 21c.; Kathol 2001 p. 337 fn. 15.)

In (5.104), the topicalized constituent **dieser Dame** is morphologically ambiguous between genitive and dative. The verbs in (5.104) impose conflicting Case requirements on this object, **entsinnen** requires a genitive and **anbieten** requires a dative object. Kathol (2001) finds the grammaticality of (5.104) 'highly dubious' (p. 337).

Beermann (1992) reports the most conservative judgments on AOG constructions. She gives two examples in which both the gap and the matrix object require dative, but are nonetheless, according to her assessment, ungrammatical.

- (5.105) ***Sie hat dem Freund anstatt zu mißtrauen geholfen.**
 she has the friend instead.of to mistrust helped
'She helped the friend instead of mistrusting him.'
 (German, Beermann 1992, p. 46, ex. 17a.)
- (5.106) ***Das Kind hat der Mutter ohne zu glauben gehorcht.**
 the child has the mother without to believe obeyed
'The child obeyed the mother without believing her.'
 (German, Beermann 1992, p. 46, ex. 17b.)

The disagreement in the literature suggests that dative Adjunct Object Gaps are rather unstable.

Examples involving accusative/dative mismatch are not an issue in Dutch, since Dutch does not generally distinguish the two cases. There are, however, interesting examples involving Adjunct Object Gaps that stand in a relationship with the matrix subject. These cases demonstrate nominative/accusative mismatch and occur both in Dutch and in German. Consider the following example found on the Internet.

- (5.107) **E-mails mét attachment maar zónder**
 e-mails with attachment but without
begeleidend én naar de te plaatsen advertentie verwijzend schrijven
 accompanying and to the to-be-placed advertisement referring message
worden door ons zonder te bekijken verwijderd.
 are through us without to look-at removed
'E-mails that have an attachment, but don't have an accompanying message referring to the advertisement to be placed are removed by us without examination.'
 (Dutch, from <http://www.homestead.com/volvoklassiek/aanvraag.html>)

The German version of this example is also acceptable.

- (5.108) **Lästige Mails werden von uns, ohne (sie) zu lesen, gelöscht.**
 annoying mails are from us without (them) to read deleted
'Annoying mails are deleted by us without reading them.'
 (German)

In fact, (5.107) and (5.108) are just as acceptable as examples in which the AOG is related to the direct object of the matrix. The same possibility was noted by Neeleman (1994).

- (5.109) **...dat de boeken door Jan zonder in te kijken afgekraakt worden**
 ...that the books by Jan without in to look belittled were
'...that the books were belittled by Jan without being read.'
 (Dutch, Culicover 2001, p. 21, ex. 50 from Neeleman 1994)⁷²

It is clear, however, that the acceptability of (5.107), (5.108) and (5.109) is related to the fact that the matrix verb has been passivized. In general, a subject cannot be associated with the AOG. In example (5.110) it is necessary to have an overt object pronoun; an object gap is not acceptable in the adjunct.

- (5.110) **Hij is zonder *(zich) te verwonden ontsnapt.**
 he is without *(himself) to wound escaped
'He fled without hurting himself.'
 (Dutch)

This example demonstrates that a subject is not sufficient and that in general the AOG must be associated with an object in the matrix clause.

⁷² Some passive subjects cannot enter a relationship with an AOG.

- (i) ***...dass dieses Buch ohne (es) zu lesen dem Jungen gegeben wurde.**
 that this.ACC book without (it) to read the.DAT boy given was
 Intended reading: *'...that this book was given to the boy without being read.'*
 (German, Kathol 2001, p. 330, ex 5. from Müller 1993)

Note that the example is still unacceptable when the pronoun is replaced by an overt pronoun.

5.2.2.4 AOG must be preceded by associated matrix nominal

In Dutch, it is undisputed that the AOG must be preceded by the matrix nominal with which it is related. Bennis (1986) presents the following contrasts.

- (5.111) **Jan heeft die boeken zonder (ze) te bekijken weggelegd.**
 Jan has the books without (them) to look.at put.away
'Jan put the books away without looking at them.'
 (Dutch, Bennis 1986, p. 63 ex. 91a.)
- (5.112) **Jan heeft zonder *(ze) te bekijken die boeken weggelegd.**
 Jan has without *(them) to look.at the books put.away
'Jan put the books away without looking at them.'
 (Dutch, Bennis 1986, p. 63 ex. 91b.)

I am of the opinion that the same constraint holds in German, although claims in the literature are contradictory. Kathol (2001) finds both of the following examples acceptable.

- (5.113) **Leider hat Maria ohne zu beantworten**
 unfortunately has Maria without to answer
alle drei Briefe weggeworfen.
 all three letters away-thrown
'Unfortunately Maria threw all three letters away without answering them.'
 (German, Kathol 2001, p. 319 ex. 7a.)
- (5.114) **Leider hat Maria alle drei Briefe**
 unfortunately has Maria all three letters
ohne zu beantworten weggeworfen.
 without to answer away-thrown
'Unfortunately Maria threw all three letters away without answering them.'
 (German, Kathol 2001, p. 319 ex. 7b.)⁷³

⁷³ It is important to distinguish between **beantworten** as an intransitive and **beantworten** as a transitive verb. Example (5.113) would be acceptable under the reading that Maria threw the letters away without answering in general. In this case, the sentence would not involve an AOG.

Müller (1993) finds (5.113) unacceptable. The German speakers I consulted agreed with Müller on the matter and I reached the conclusion that the matrix object is required to precede the adjunct.

5.2.3 *Parasitic Gap analysis of AOGs*

Parasitic gaps are gaps that appear in positions from which extraction cannot normally take place and are dependent on the presence of other gaps.

- (5.115) **Which articles did John file t without reading pg?**
(Culicover 2001 from p. 3 ex. 1a. from Engdahl 1983)

Culicover (2001) summarizes the aspects of parasitic gaps that are currently agreed upon in the research community. A key point is that parasitic gaps are considered to be licensed by A'-movement. A-movement does not license parasitic gaps, as shown in (5.116).

- (5.116) ***John was killed t by a tree falling on pg.**
(Culicover 2001 from p. 5 ex. 8a. from Engdahl 1983)

Another point important to the present discussion is that parasitic gaps can be replaced by an overt pronoun.

- (5.117) (cf. (5.115)) **Which articles did John file t without reading them?**

The issue of whether or not AOGs should be analyzed as parasitic gaps splits authors into two camps. Felix (1985), Bennis and Hoekstra (1985a, 1985b), Webelhuth (1992) and Müller (1993) argue that AOGs are parasitic gaps and Huybregts and van Riemsdijk (1985), Beermann (1992) and Kathol (1995) argue that they are not. Authors that claim that AOGs are parasitic gaps hold that scrambling of the object is the A'-movement that licenses the gap in the prepositional adjunct. The fact that AOGs alternate with overt pronouns speaks in favor of them being parasitic gaps rather than traces of movement.

There are several problems with the position that AOGs are parasitic gaps. First, AOGs appear only in prepositional adjuncts in Dutch and German, whereas parasitic gaps occur in relative clauses as well in English.

(5.118) **This is the book that [everyone who reads pg] becomes enthusiastic about t**
(Kathol 2001, p. 321, ex. 17a.)

(5.119) ***Dit is het boek dat [iedereen die pg leest] t bewondert.**
this is the book that everyone REL pg read t admires
(Kathol 2001, p. 321, ex. 17b.)

Second, *wh*-movement in Dutch and German licenses gaps that are located in sentential complements.

(5.120) **Welke kat heb je zonder te zeggen**
Which cat have you without to say
dat je hebt pg gekocht t meegenomen?
that you have bought taken
'Which cat did you take along without saying that you had bought?'
(Dutch)

Recall that an AOG cannot occur in a sentential complement.

(5.98) ***Ik heb de kat zonder te zeggen dat ik heb gekocht meegenomen.**
I have the cat without to say that I have bought taken
Intended reading: 'I took the cat along without saying that I had bought him.'
(Dutch)

Third, as pointed out by Beermann (1992), gaps licensed by *wh*-movement in German are not sensitive to the position of the prepositional adjunct. The adjunct may occur sentence finally.

(5.98) **Wen hast du geküsst ohne (ihn) anzugucken?**
whom have you kissed without (him) at-to-look
'Who did you kiss without looking at?'
(German)

This example contrasts with the AOG construction in (5.93), repeated.

- (5.93) ***Er hat den Brief verschickt ohne *(ihn) zu korrigieren.**
 he has the letter sent without *(it) to correct
 Intended reading: *'He sent the letter without reading it.'*
 (German)

Fourth, gaps licensed by *wh*-movement in German are perfectly acceptable when they are dative.

- (5.121) **Wem hat er anstatt zu glauben misstraut?**
 whom has he instead.of to believe mistrusted
'Who did he mistrust instead of believing.'
 (German, Beermann 1992, p. 46, ex. 16)

This example contrasts with dative AOG-gaps, which Beermann (1992) finds ungrammatical (repeated).

- (5.105) ***Sie hat dem Freund anstatt zu mißtrauen geholfen.**
 she has the friend instead.of to mistrust helped
'She helped the friend instead of mistrusting him.'
 (German, Beermann 1992, p. 46, ex. 17a.)

Fifth, AOG-gaps occur in sentences in which no scrambling has taken place, such as in the case of the passive sentence in (5.108) (repeated.)

- (5.108) **Lästige Mails werden von uns, ohne (sie) zu lesen, gelöscht.**
 annoying mails are from us without (them) to read deleted
'Annoying mails are deleted by us without reading them.'
 (German)

In (5.108), A-movement, but not A'-movement has taken place. The standard account of parasitic gaps requires them to be licensed by A'-movement. These five aspects of AOG-constructions make them look very different from parasitic gap constructions. In the following section, I propose and defend an alternate analysis.

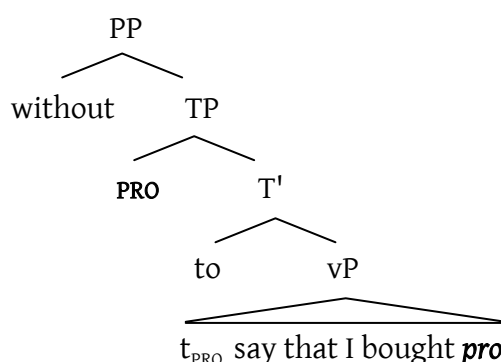
5.2.4 Analysis of AOG constructions

I would like to advance the proposal that the AOG is a null pronoun that scrambles to a maximal position in its adjunct, a position in which it can fulfill the

An immediately obvious advantage of the proposed account over the parasitic gap account is that the fact that an AOG cannot occur in a sentential complement is explained.

- (5.98) *Ik heb de kat zonder te zeggen dat ik heb gekocht meegenomen.
 I have the cat without to say that I have bought taken
 'I took the cat along without saying that I had bought him.'
 (Dutch)

(5.123) *AOG in sentential complement (not acceptable)*



In order to have access to the Coupling Mechanism, the null object must scramble to the top position in its clause.⁷⁴ Since scrambling is a clause-bound movement, a null object can never leave the sentential complement.

The fact that the movement by which the null pronoun attains the maximal position in its clause is a scrambling movement makes it possible for my analysis to account for the cross-linguistic distribution of AOGs. Languages like Norwegian or English do not admit AOGs.

- (5.124) I turned the book without reading *(it) right back in to the library.

⁷⁴ In order for this account to go through, it is clearly necessary to assume that Spec T and not Spec P is the maximal position in the clause that is relevant for access to the antecedent clause.

The lack of AOGs in these languages can be attributed to the fact that objects cannot scramble and thus cannot reach a maximal position within the prepositional adjunct.

The Coupling Mechanism is an interpretational algorithm which is mediated by the discourse. I would like to put forward that this aspect of the Coupling Mechanism explains why the argument of the matrix clause associated with the AOG must precede the adjunct containing the AOG, as was illustrated by (5.112), repeated.

- (5.112) **Jan heeft zonder *(ze) te bekijken de boeken weggelegd.**
 Jan has without (them) to look.at the books put.away
'Jan put the books away without looking at them.'
 (Dutch, Bennis 1986, p. 63 ex. 91b.)

This argument must be pronounced in order to introduce an entity into the discourse context and make it available to be picked out as the referent of the AOG by the definite description used to recover content. Recall that authors discussing German examples do not agree whether or not the adjunct is required to precede the matrix argument associated with the AOG, as discussed in 5.2.2.4. This lack of consensus is more compatible with an account that ascribes the constraint to discourse requirements than with one that attributes it to a structural requirement such as c-command. The view that precedence rather than c-command is important in the AOG construction is supported by the following example.

- (5.125) **?Ich habe mich in den Schriftsteller, ohne zu kennen, verliebt.**
 I have myself in the writer without to know fell-in-love
'I fell in love with the writer without knowing him.' (German)

In this example the prepositional object is associated with the AOG, but does not c-command it. If c-command were essential for AOG licensing, this example should be clearly unacceptable. The fact that it is of marginal acceptability suggests that precedence of the matrix nominal is the decisive factor.

The Ambiguity Prohibition in the Coupling Mechanism provides a similar explanation for the alignment effect discussed in 5.2.2.3, another area in which authors disagree about the AOG construction data. An AOG can be associated with a matrix subject as in (5.108), but only if that subject has been promoted from object by passivization.

- (5.108) **Lästige Mails werden von uns, ohne (sie) zu lesen, gelöscht.**
 annoying mails are from us without (them) to read deleted
'Annoying mails are deleted by us without reading them.' (German)

This fact suggests the important characteristic about the associated nominal is that it has a Patient θ -role, just like the gap. Datives do not make good associated nominals for AOGs. Recall that Beermann (1992) finds the unacceptable.

- (5.105) ***Sie hat dem Freund anstatt zu mißtrauen geholfen.**
 she has the friend instead.of to mistrust helped
'She helped the friend instead of mistrusting him.'
 (German, Beermann 1992, p. 46, ex. 17a.)

The disagreement in the literature over examples involving datives points towards the conclusion that Dutch/German AOGs are similar to Norwegian Empty Objects in that they are sensitive to variations in volitionality due to the requirements of the Ambiguity Prohibition. I will leave this idea formulated as a speculation. The point that is important is that the parasitic gap account has no potential for accounting for the restrictions on dative AOGs or the disagreement concerning the acceptability of the data.

The Ambiguity Prohibition also provides an explanation of why AOG only occurs in infinitival adjuncts, as in (5.97), repeated.

- (5.97) **Hij heeft het meisje zonder dat hij *(haar) heeft aangekeken gekust.**
 he has the girl without that he *(her) has at-looked kissed
'He kissed the girl without looking at her.' (Dutch)

Recall that in Baule I argued that the presence of two distinct temporal indices in the construction makes it possible to derive two definite descriptions that are distinct for the purposes of evaluating the Ambiguity Prohibition. I speculate that it is for this reason that AOGs can only occur in infinitival adjuncts. The fact that an infinitive does not introduce a temporal index ensures that only a unique definite description can be built from the matrix clause.

I would like to advance the tentative proposal that the exclusion of prepositional adjuncts containing AOGs in sentence final position is related to conventionalized interpretation tendencies that are independent of AOG licensing. In general, an adjunct in medial position is more acceptable if its direct object is co-referent with the direct object of the matrix.

- (5.126) ?**Ik heb de auto in plaats van de versnelling te laten repareren verkocht.**
 I have the car instead of the transmission to let repair sold
'I sold the car instead of repairing the transmission.' (Dutch)
- (5.127) **Ik heb de auto in plaats van hem te laten repareren verkocht.**
 I have the car instead of (it) to let repair sold
'I sold the car instead of repairing it.' (Dutch)

An adjunct with an object not co-referent with the matrix object is more acceptable when extraposed.

- (5.128) ??**Für den Kindergeburtstag hat Winnie Eis,**
 for the children's-birthday has Winnie ice.cream
anstatt Kuchen zu backen, gekauft.
 instead-of cake to bake bought
'For the birthday party Winnie bought ice cream instead of baking cake.'
 (German)

- (5.129) **Für den Kindergeburtstag hat Winnie Eis gekauft,**
 for the children's-birthday has Winnie ice.cream bought
anstatt Kuchen zu backen.
 instead-of cake to bake
'For the birthday party Winnie bought ice cream instead of baking cake.'
 (German)

I will not offer a further explanation for these preferences. Instead, I use these examples to claim that there is a basis for the assumption that sentence-medial position is a conventional position for adjuncts with objects co-referent with the matrix object and sentence-final position is the conventional position for adjuncts containing objects not co-referent with the matrix object.

The point I would like to make is that the interpretational tendencies in cases involving adjuncts without AOGs may explain the sentence-final prohibition on AOG-adjuncts discussed in 5.2.2.1.

- (5.92) **Er hat den Brief ohne pro zu korrigieren verschickt.**
 he has the letter without to correct sent
'He sent the letter without reading it.'
 (German)
- (5.93) ***Er hat den Brief verschickt ohne pro zu korrigieren**
 he has the letter sent without **pro** to correct
'He sent the letter without reading it.'
 (German)

Under such a view, the unacceptability of (5.93) is due to the fact that sentence-final position is the preferred⁷⁵ position for adjuncts whose objects have extrasentential

⁷⁵ My assumption is that this convention represents a tendency only, since overt pronominal objects in adjuncts in sentence final position obviously have matrix-object reference as well as extrasentential reference possibilities open to them.

- (i) **Ik heb de auto_i verkocht in plaats van hem_{i/k} te laten repareren.**
 I have the car sold instead of it to let repair
'I sold the car instead of repairing it.'
 (Dutch)

In this example, the matrix-object reference is even clearly the more natural interpretation.

reference. For this reason, **korrigieren** is interpreted with an understood object and not an object co-referent with the matrix-object. My claim is that the understood object reading dominates and blocks the AOG object reading.

5.2.5 *Summary of Adjunct Object Gap (AOG) account*

In this section, I have explored the extent to which a null-object account involving the Coupling Mechanism can explain the behavior and distribution of unexpressed objects in prepositional adjuncts in Dutch and German. The Coupling Mechanism requires a null pronoun to occupy the maximal position in its clause. This aspect of the Coupling Mechanism serves to explain why AOGs do not appear in sentential complements and why they occur only in languages with scrambling (other languages have no movement that propels the null object high enough). The Coupling Mechanism must construct a unique definite description from an antecedent clause, but uniqueness fails to obtain when the AOG is contained in a tensed clause, due to the presence of a temporal index additional to that of the matrix clause. It also fails to obtain in the case of datives, which are not clearly non-agentive, and therefore not adequately distinguishable from subjects. It is argued that the matrix nominal must merely precede the AOG and that c-command is incidental and plays no direct role in AOG-licensing. The sensitivity of the AOG to the position of the prepositional adjunct has been speculated to be attributable to interpretational convention.

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